



## **City of Cincinnati Retirement System Board of Trustees Meeting**

### **Agenda**

**August 4, 2016 / 2:00 P.M.  
Centennial II, 2<sup>nd</sup> Floor, Classroom B**

#### **Members**

Tom Gamel, Chair  
Bill Moller, Vice-Chair  
Christopher Baucom  
Don Beets  
Mark Berliant  
Steven Dietrich  
Chris Meyer  
Don Stiens  
Tom West

#### **CRS Staff**

Paula Tilsley  
Katie Fine  
Cheryl Volk

#### **Call to Order**

#### **Approval of Minutes**

- ✚ Minutes - May 5, 2016 & July 27, 2016

#### **Investment Committee**

- ✚ Report from August 4, 2016 Investment Committee meeting

#### **Unfinished Business**

#### **New Business**

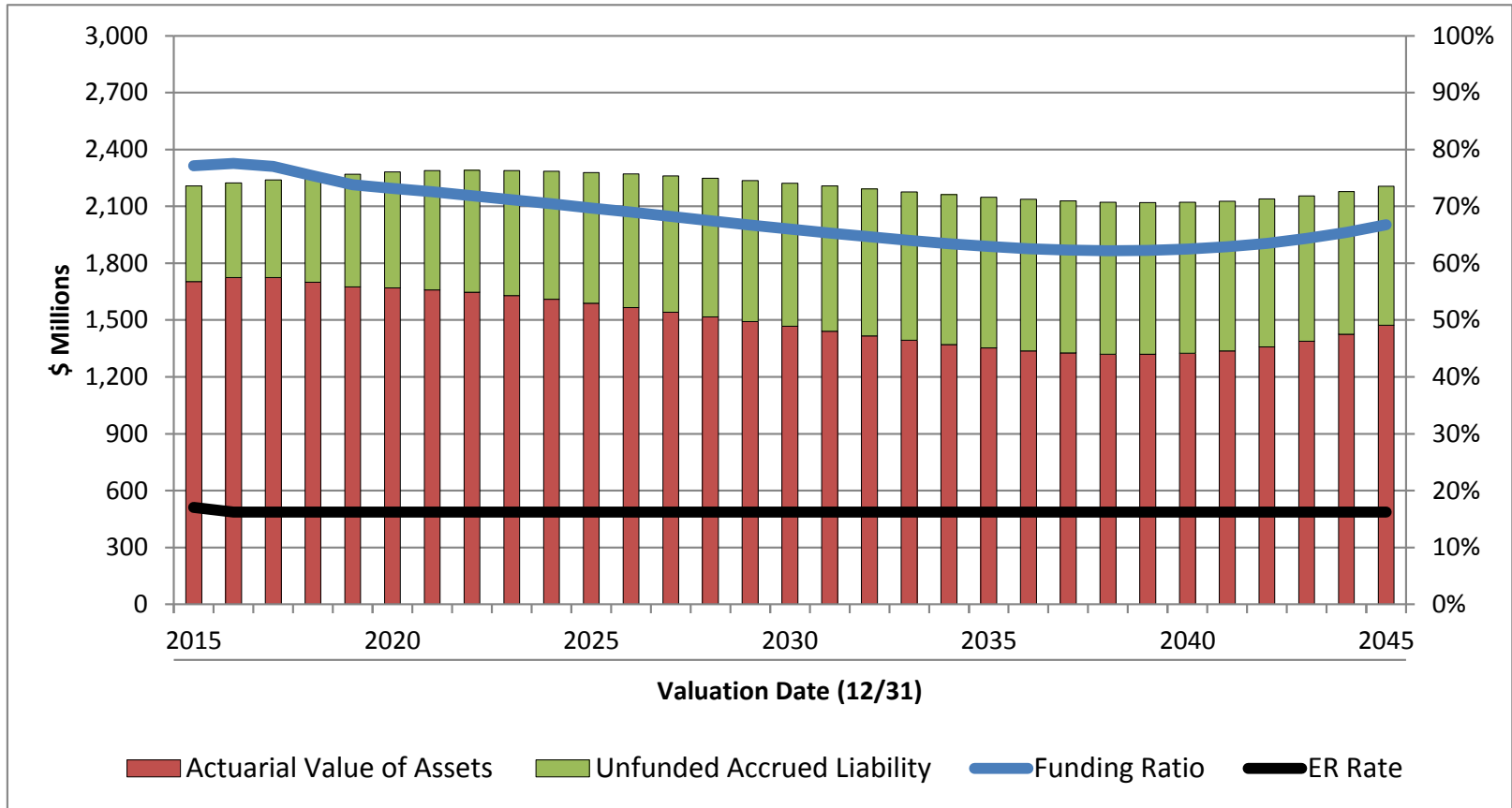
- ✚ Legal Update – Steve Goodin, Graydon Head & Ritchey LLC
- ✚ Cavanaugh Macdonald Consulting, LLC
  - Ed Koebel, EA, FCA and Eric Gary, FSA, FCA
    - 2015 Pension Valuation Report - DRAFT
    - 2015 Healthcare Valuation Report – DRAFT
- ✚ Committee Assignments
- ✚ Proposed Policies – D. Beets

#### **Adjournment**

**Next Meeting:** September 1, 2016 – 2:00 P.M., City Hall, Committee Room B



# 30 Year Projection of Funding Ratio (Pension)

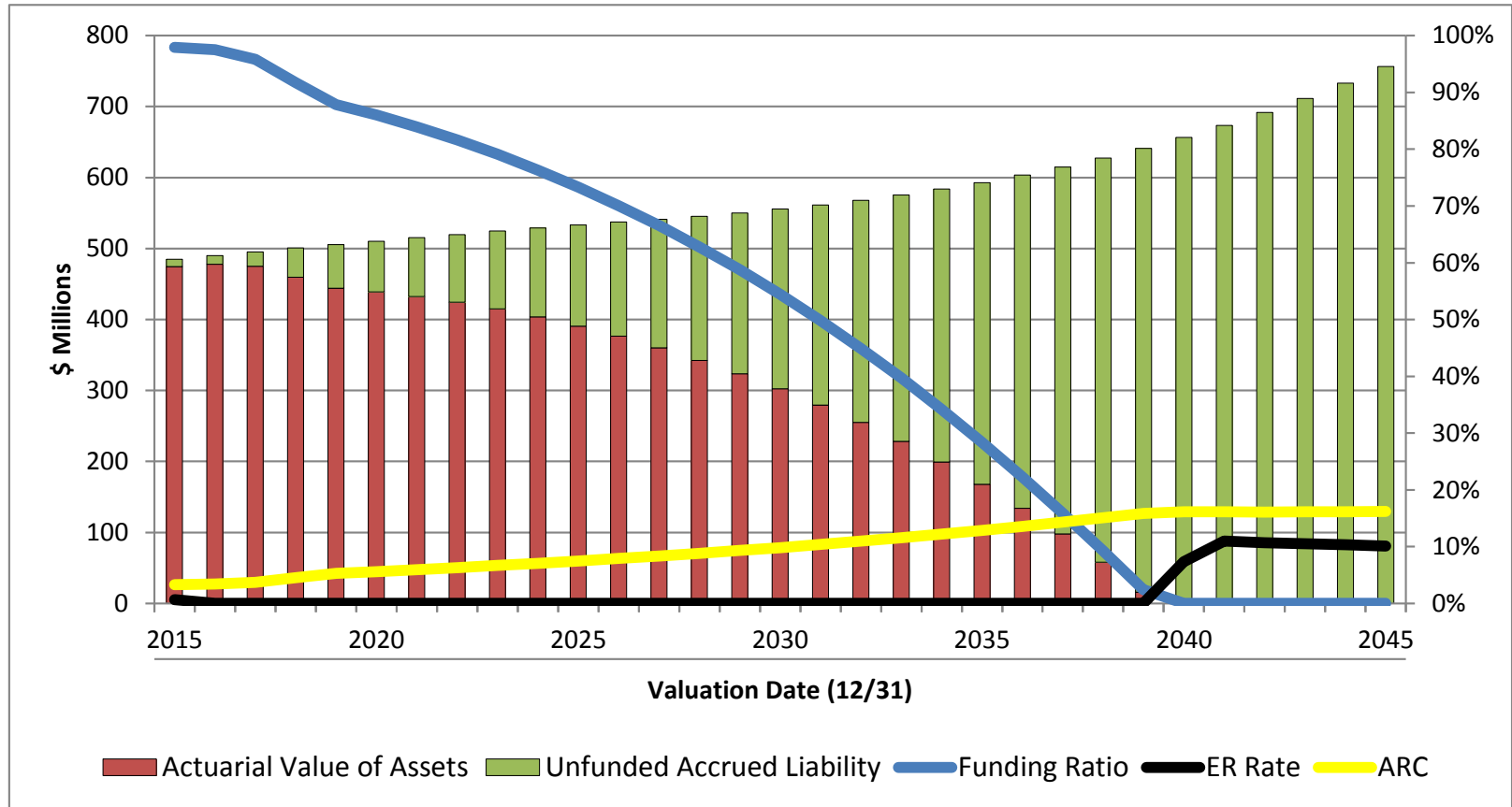


- Assumed rate of return for all years is 7.50%
- Based on 12-31-2015 Valuation Results
- Reflects plan and funding changes included in the Collaborative Settlement Agreement as understood by the actuary.
- Projected to reach a funding ratio of 100% in 2058.



# 30 Year Projection of Funding Ratio

(Retiree Health Benefits – Valuation Basis)



- Assumed rate of return for all years is 7.50%
- Based on 12-31-2015 Valuation Results
- Reflects plan and funding changes included in the Collaborative Settlement Agreement (CSA) as understood by the actuary.
- Assumes no future funding for the OPEB Trust as, "the City's obligation to fully fund the 115 Trust at actuarially appropriate levels" per the CSA has yet to be defined. The failure to advance fund benefits at certain levels may result in the use of a lower discount rate for accounting disclosures.



**Cavanaugh Macdonald**  
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**Report of the Actuary on the  
Annual Valuation of the  
Retirement System for Employees of  
the City of Cincinnati**

**Retiree Health Benefits Report**

**Prepared as of December 31, 2015  
and Presented to the Board of  
Trustees for Approval on August 4, 2016**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

August 4, 2016

Board of Trustees  
Retirement System for Employees of the City of Cincinnati  
801 Plum Street  
Cincinnati, OH 45202

Members of the Board:

We are pleased to submit the results of the retiree health benefits actuarial valuation of the Retirement System for Employees of the City of Cincinnati (System) prepared as of December 31, 2015. The purpose of this report is to provide a summary of the funded status of the System as of December 31, 2015, to recommend rates of contribution, and to provide accounting information under Governmental Accounting Standards Board Statements No. 43 and No. 45 (GASB 43 and 45).

On the basis of the valuation, it is recommended that employer contributions to the System be set at a rate of 3.70% of payroll (approximately \$6,188,000) for the City's fiscal year ending June 30, 2017. The retiree health benefits of the System are included in the calculated contribution rate which is developed using the entry age cost method. Five-year smoothed market value of plan assets is used for the actuarial value of assets. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions within a 30-year period.

The valuation reflects the plan and funding changes included in the Collaborative Settlement Agreement (CSA) between the City of Cincinnati (City) and various plaintiff groups representing certain active and retired members of CRS as approved by the United States District Court for the Southern District of Ohio, Western Division (Court) on October 5, 2015 and generally effective January 1, 2016. As some of the changes outlined in the CSA have yet to be finalized or may be subject to interpretation, the valuation represents our understanding of the CSA as of the valuation date.

Since the previous valuation, we updated the initial per capita health care costs, the contribution rates for those retirees participating in the 2016 Select Plan, and the rates of health care inflation used to project the per capita health care costs to reflect the System's recent experience. Additionally, the assumptions have been revised to reflect the January 1, 2016 transition to prescription drug benefits provided through a Medicare Prescription Drug Plan (PDP). As the Plan will no longer participate in the Centers for Medicare & Medicaid Services' (CMS) Retiree Drug Subsidy Program, the Medicare Part D subsidies implicit in the lower costs for PDPs are recognized in the liability under GASB Statements No. 43 and No. 45.

The valuation has been prepared in accordance with the parameters set forth in Statements No. 43 and No. 45 of the Governmental Accounting Standards Board. The annual required contribution (ARC) for the City under GASB for the City's fiscal year ending June 30, 2017 is 3.70% of payroll, based on a 30-year period for amortization of the unfunded accrued liability.



August 4, 2016  
Board of Trustees  
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This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the System.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Eric H. Gary'.

Eric H. Gary, FSA, FCA, MAAA  
Principal and Chief Health Actuary

A handwritten signature in blue ink, appearing to read 'Edward J. Koebel'.

Edward Koebel, EA, FCA, MAAA  
Principal and Consulting Actuary

EG/EK:bw



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**RETIREMENT SYSTEM FOR EMPLOYEES OF THE CITY OF CINCINNATI  
REPORT OF THE ACTUARY  
ON THE VALUATION  
PREPARED AS OF DECEMBER 31, 2015**

**RETIREE HEALTH BENEFITS REPORT**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below.

Valuation Date	December 31, 2015	December 31, 2014
Active members:		
Number*	2,931	2,804
Annualized compensation	\$ 167,248,240	\$ 157,825,141
Retired members and surviving spouses receiving retiree health benefits:	3,847	3,954
Number of spouses receiving retiree health benefits:	<u>1,482</u>	<u>1,535</u>
Total	5,329	5,489
Number of members and beneficiaries entitled to deferred benefits**	191	197
Assets:		
Market Value	\$ 456,918,000	\$ 737,722,000
Actuarial Value	474,746,152	706,958,599
Unfunded actuarial accrued liability	\$ 10,086,799	\$ (116,056,774)
Amortization Period	30 years	30 years
Funded Ratio		
Market Value	94.2%	124.8%
Actuarial Value	97.9%	119.6%
<b>City's Fiscal Year Ending</b>	<b>June 30, 2017</b>	<b>June 30, 2016</b>
City annual required contribution rate (ARC):		
Normal	3.23%	3.67%
Accrued liability	<u>0.47%</u>	<u>(5.79%)</u>
Total	3.70%	(2.12%)
City annual required contribution in dollars (ARC):		
Normal	\$ 5,402,000	\$ 5,792,000
Accrued liability	<u>786,000</u>	<u>(9,138,000)</u>
Total	\$ 6,188,000	\$ (3,346,000)

\* In addition, there are 979 part-time employees at December 31, 2015, compared to 795 part-time employees at December 31, 2014.

\*\*Of the 191 members and beneficiaries entitled to deferred benefits, 54 are assumed eligible to receive retiree health benefits.





2. The major benefit and contribution provisions of the System, as reflected in the valuation, are summarized in Schedule G. The valuation reflects the plan and funding changes included in the CSA between the City and various plaintiff groups representing certain active and retired members of CRS as approved by the Court on October 5, 2015 and generally effective January 1, 2016. As some of the changes outlined in the CSA have yet to be finalized or may be subject to interpretation, the valuation represents our best understanding of the CSA.
3. Schedule E of this report outlines the full set of actuarial assumptions and methods used in the valuation. The following change was made to the assumptions since the previous valuation:
  - The assumed initial per capita health care costs used to project the per capita health care costs have been updated to reflect the System's recent experience.
  - As the contribution rates for those retirees participating in the 2016 Select Plan are based upon retiree health care cost experience, retiree contribution rates were updated to reflect the System's recent experience.
  - The assumed rates of health care inflation have been updated to reflect the anticipated future experience of the plan.
4. Since the previous valuation, the assumptions have been revised to reflect the January 1, 2016 transition to prescription drug benefits provided through a Medicare Prescription Drug Plan (PDP). As the Plan will no longer participate in the Centers for Medicare & Medicaid Services' (CMS) Retiree Drug Subsidy Program, the Medicare Part D subsidies implicit in the lower costs for PDPs are recognized in the liability under GASB Statements No. 43 and No. 45.
5. Schedule C shows the development of the actuarial value of assets. The entry age actuarial cost method was used to prepare the valuation. Schedule F contains a brief description of the actuarial cost method.
6. Comments on the valuation results as of December 31, 2015 are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section VII and further discussion of the contributions is set out in Section V.



## **SECTION II – MEMBERSHIP DATA**

1. Data regarding the membership of the System for use as a basis of the valuation was furnished by the System. The valuation included 2,931 active members with annualized compensation totaling \$167,248,240. In addition, there are 979 part-time employees. The majority of these part-time employees are seasonal employees that have a de minimis impact on the liabilities of the System.
2. The following table shows the number of retired members and spouses in receipt of retiree health benefits, and those members with deferred retiree health benefits as of December 31, 2015.

**THE NUMBER OF RETIRED  
MEMBERS AND BENEFICIARIES  
AS OF DECEMBER 31, 2015**

Group	Number
Retired members and surviving spouses currently receiving retiree health benefits	3,847
Spouses currently receiving retiree health benefits	<u>1,482</u>
Total	5,329
Terminated vested members eligible for retiree health benefits	54
Terminated vested members not eligible for retiree health benefits	<u>137</u>
Total	191

\*In addition, there are 7,518 inactive participants who are former employees with an employee account balance in the pension plan, but are assumed to not be vested. As such, no retiree health benefit liability is assumed for these individuals.

3. Table 1 in Schedule H shows the distribution by age and years of membership service of the number of active members included in the valuation, while Table 2 shows the number of retired members, beneficiaries, and spouses included in the valuation, distributed by age. Table 3 provides a distribution of members, beneficiaries, and spouses included in the valuation, by health care plan.



### **SECTION III – ASSETS**

1. Per the CSA, the System transferred from the existing 401(h) account the entire balance of available funds. An amount of \$237,897,000 was transferred to the Pension Trust Fund for the purpose of reducing unfunded pension liabilities. The remaining balance was transferred to an IRC Section 115 Trust Fund created for the purpose of holding and investing funds for the provision of retiree health benefits.
2. As of December 31, 2015, the market value of assets available for the purpose of providing retiree health benefits amounted to \$456,918,000, as reported by the System. The estimated investment return for the plan year was (0.11)%. Schedule D shows a reconciliation of the market value of assets from December 31, 2014 to December 31, 2015.
3. The market related actuarial value of assets using a 5-year smoothing technique of investment gains and losses is \$474,746,152. The estimated investment return for the plan year ending December 31, 2015 on an actuarial value of assets basis was 7.39%, which can be compared to the investment return assumed for the period of 7.50%. Schedule C shows the development of the actuarial value of assets as of December 31, 2015.



#### **SECTION IV – COMMENTS ON VALUATION**

1. Schedule B of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of December 31, 2015. The valuation was prepared in accordance with the actuarial assumptions set forth in Schedule E and the actuarial cost method which is described in Schedule F.
2. The valuation balance sheet shows that the System has total prospective liabilities of \$527,040,385, of which \$337,620,535 is for the prospective retiree health benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred retiree health benefits, and \$189,419,850 is for the prospective retiree health benefits payable on account of present active members. Against these liabilities, the System has a total present actuarial value of assets of \$474,746,152 as of December 31, 2015. The difference of \$52,294,233 between the total liabilities and the total present assets represents the present value of future contributions.
3. The contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that normal contributions at the rate of 3.23% of payroll are required under the entry age method. Estimated budgeted administrative expenses are included in the normal cost rate. The expenses for the fiscal year ending June 30, 2017 are estimated to be 0.38% of payroll. As active employees do not contribute to retiree health benefits, the full amount of 3.23% is payable by the City.
4. Prospective normal contributions at the rate of 3.23% have a present value of \$42,207,434 net of administrative expenses. When this amount is subtracted from \$52,294,233, which is the present value of the total future contributions to be made, there remains \$10,086,799 as the amount of unfunded accrued liability contributions. The development of the unfunded accrued liability is shown in Schedule A.
5. As can be seen from Schedule I of our report, the System had a loss for the year. Most of this loss came as a result of the plan and funding changes included in the CSA between the City and various plaintiff groups representing certain active and retired members of CRS as approved by the Court on October 5, 2015 and generally effective January 1, 2016. The effect, in part, of these changes



was an increase in unfunded liabilities mainly due to a transfer of assets to the Pension Trust Fund for the purpose of reducing unfunded pension liabilities. This loss was offset by the existing asset surplus, the implementation of a Medicare Prescription Drug Plan (PDP) to obtain Medicare Part D subsidies, and changes to the benefits of future retirees. As for the actuarial experience of CRS for the valuation year, there was a relatively small experience gain. This was mainly due to more retiree deaths than expected.

6. The valuation's discount rate assumption of 7.50% reflects the System's intent, in the long-term, to fully-fund retiree health benefits. If the System is unable to maintain the fully-funded status of retiree health benefits due to a reduction in asset levels resulting from investment returns below the current target rate of return, higher than expected benefit payments, and/or the inability to make future contributions, the valuation of retiree health benefits liabilities may require the use of a lower discount rate.
7. The impact of the Affordable Care Act (ACA) was addressed in this valuation. Review of the information currently available did not identify any specific provisions of the ACA that are anticipated to significantly impact results. While the impact of certain provisions such as the excise tax on high-value health insurance plans beginning in 2020 (if applicable) and participation changes due to the individual mandate should be recognized in the determination of liabilities, overall future plan costs and the resulting liabilities are driven by amounts employers and retirees can afford (i.e., trend). The trend assumption forecasts the anticipated increase to initial per capita costs, taking into account health care cost inflation, increases in benefit utilization, plan changes, and technological advances. Given the uncertainty regarding the ACA's implementation (e.g., the impact of excise tax on high-value health insurance plans, changes in participation resulting from the implementation of state-based health insurance exchanges), continued monitoring of the ACA's impact on the System's liability will be required.
8. On June 2, 2015, GASB Statement No. 74 and GASB Statement No. 75 (GASB 74 and 75) were unanimously adopted by the GASB Board. The disclosure requirements of GASB 74 and 75 will be similar to the disclosure requirements for pension benefits under GASB Statement No. 67 and GASB Statement No. 68. GASB 74 relates to accounting disclosures for plans and, as such,



replaces GASB 43 beginning with fiscal years ending December 31, 2017. GASB 75 relates to accounting disclosures for contributing employers and, as such, replaces GASB 45 beginning with fiscal years ending December 31, 2018. GASB 74 and 75 will require applicable OPEB plans and contributing employers to disclose the net OPEB liability on the statement of financial position and book an accounting expense based upon the entry age normal actuarial cost method. Beyond the use of a specified actuarial cost method, GASB's new disclosure standards will also require the discount rate used to calculate liabilities to be based upon the yield of 20-year, tax-exempt municipal bonds and the expected rate of return on plan assets, to the extent plan assets are projected to be available for the payment of future benefits. Additionally, GASB 74 and 75 will bring about many other changes in the liability valuation and accounting disclosure processes currently in place which are expected to significantly impact data collection, timing, and effort. As details for the new GASB OPEB disclosure standards emerge, planning and coordination between plans, contributing employers, actuaries, and auditors is recommended.

DRAFT



## **SECTION V – CONTRIBUTIONS PAYABLE**

1. The contributions consist of a normal contribution and an accrued liability contribution as determined by actuarial valuation.
2. The normal contribution rate is calculated as the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required to meet the cost of all retiree health benefits payable on his or her behalf. On the basis of the valuation, the normal contribution rate was determined to be 3.23%. As active employees do not contribute to retiree health benefits, the full amount of 3.23% is payable by the City.
3. A contribution of 0.47% of payroll will liquidate the unfunded accrued liability within a 30-year period.
4. The total City ARC rate required for the City's fiscal year ending June 30, 2017 is, therefore, 3.70% of payroll. It is our recommendation the employer contributions to the System be set at the ARC rate of 3.70% of payroll.
5. The following table summarizes the employer contributions which were determined by the December 31, 2015 valuation and are recommended for use.

### **EMPLOYER ANNUAL REQUIRED CONTRIBUTIONS (ARC) FOR CITY'S FISCAL YEAR ENDING JUNE 30, 2017**

Contribution	Percentage of Active Members' Compensation	Dollar Amount
Normal	3.23%	\$ 5,402,000
Accrued Liability	<u>0.47</u>	<u>786,000</u>
Total	3.70%	\$ 6,188,000



## **SECTION VI – ACCOUNTING INFORMATION**

1. Governmental Accounting Standards Board Statements No. 43 and No. 45 set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of participants by type of membership, as follows:

### **NUMBER OF ACTIVE AND RETIRED PARTICIPANTS AS OF DECEMBER 31, 2015**

Group	Total
Retired members and surviving spouses currently receiving retiree health benefits	3,847
Spouses currently receiving retiree health benefits	1,482
Terminated vested members eligible for retiree health benefits	54
Active Participants	
Full-Time	2,931
Part-Time	<u>979</u>
Total	9,293

2. Another such item is the schedule of funding progress as shown below.

### **SCHEDULE OF FUNDING PROGRESS Dollar Amounts in Thousands**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b – a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b – a) / c)
12/31/2010	\$726,412	\$657,045	\$ (69,368)	110.6%	\$167,589	(41.4)%
12/31/2011	668,392	653,404	(14,988)	102.3	165,029	(9.1)
12/31/2012	634,173	641,876	7,703	98.8	167,148	4.6
12/31/2013	674,709	618,508	(56,201)	109.1	163,477	(34.4)
12/31/2014	706,959	590,902	(116,057)	119.6	164,575	(70.5)
12/31/2015	474,746	484,833	10,087	97.9	174,963*	5.8

\*Includes \$7,714,292 in part-time active employee compensation.





3. Following is the calculation of the annual OPEB cost and net OPEB obligation for the City's fiscal year ending June 30, 2016.

Annual OPEB Cost and Net OPEB Obligation for City's Fiscal Year Ending June 30, 2016		
(a)	Employer annual required contribution*	\$ (3,346,000)
(b)	Interest on net OPEB obligation	6,622,000
(c)	Adjustment to annual required contribution	<u>7,211,000</u>
(d)	Annual OPEB cost (a) + (b) – (c)	\$ (3,935,000)
(e)	Employer contributions made for the City's fiscal year ending June 30, 2016	<u>TBD</u>
(f)	Increase (decrease) in net OPEB obligation (d) – (e)	\$ TBD
(g)	Net OPEB obligation beginning of the City's fiscal year	<u>88,295,000</u>
(h)	Net OPEB obligation end of the City's fiscal year (f) + (g)	\$ TBD

\*Developed from the December 31, 2014 valuation.

#### TREND INFORMATION\*

City's Fiscal Year Ending	Annual OPEB Cost (AOC)	Percentage of AOC Contributed	Net OPEB Obligation (NOO)
December 31, 2011	\$19,328,000	11%**	\$86,800,000
December 31, 2012	(313,000)	(639)**	84,487,000
June 30, 2013	2,441,000	38**	86,004,000
June 30, 2014	5,707,000	36**	89,663,000
June 30, 2015	537,000	355**	88,295,000
June 30, 2016	(3,935,000)	TBD	TBD

\* Historical information provided in the City's financial statements.

\*\* All employer contributions are the result of payments received from the Centers for Medicare & Medicaid Services (CMS) under the Retiree Drug Subsidy Program (RDS).



4. The annual required contribution (ARC), stated as a percentage of payroll and in dollars, determined in accordance with the parameters of GASB 43 and 45, is shown below.

Employer Annual Required Contribution (ARC) City's Fiscal Year Ending June 30, 2017		
Contribution	Percentage of Active Members' Compensation	Dollar Amount
Normal	3.23%	\$5,402,000
Accrued liability	<u>0.47</u>	<u>786,000</u>
Total	3.70%	\$6,188,000

5. Additional information as of December 31, 2015 follows:

Valuation date	12/31/2015
Actuarial cost method	Entry age
Amortization period	Level dollar open
Remaining amortization period	30 years
Asset valuation method	Five-year smoothed market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	7.50%
Projected salary increases (includes inflation)*	3.00% - 7.50%
Health care trend rate (includes inflation)	7.75%/5.75% initial (varies by age)
	5.00% ultimate
Inflation	3.00%

\*Select salary increases for 5-year period beginning December 31, 2011.



## SECTION VII – EXPERIENCE

Actual experience will never (except by coincidence) follow exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended December 31, 2015 is shown below.

	<u>\$ Thousands</u>
(1) UAAL as of December 31, 2014	\$ (116,057)
(2) Normal cost from December 31, 2014 valuation	5,792
(3) Actual employer contributions*	1,056
(4) Interest accrual: $\{(1) + (2)\} \times 0.075 - [(3) \times 0.075 \times 0.50]$	<u>(8,309)</u>
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$	\$ (119,630)
(6) Change due to plan amendments	(109,835)
(7) Change due to asset transfer	237,185
(8) Change due to actuarial assumptions or methods	<u>5,086</u>
(9) Expected UAAL after changes: $(5) + (6) + (7) + (8)$	\$ 12,806
(10) Actual UAAL as of December 31, 2015	<u>10,087</u>
(11) Gain/(loss): $(9) - (10)$	\$ 2,719
(12) Gain/(loss) as a percent of the December 31, 2014 actuarial accrued liabilities (\$590,902)	0.46%

\* All employer contributions are the result of payments received from the Centers for Medicare & Medicaid Services (CMS) under the Retiree Drug Subsidy Program (RDS)

Valuation Date December 31	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2010	(0.1)%
2011	(4.0)%
2012	(8.7)%
2013	5.4%
2014	5.5%
2015	0.5%



# **SCHEDULE A**

## **DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY AS OF DECEMBER 31, 2015**

	<b>Before CSA Changes*</b>	<b>After CSA Changes</b>
(1) Present value of prospective benefits:		
(a) Present active members	\$ 246,762,198	\$ 189,419,850
(b) Present retired members, beneficiaries and former members entitled to deferred vested retiree health benefits	<u>409,460,541</u>	<u>337,620,535</u>
(c) Total	\$ 656,222,739	\$ 527,040,385
(2) Present value of future normal contributions	<u>56,469,034</u>	<u>42,207,434</u>
(3) Actuarial accrued liabilities: 1(c) – (2)	\$ 599,753,705	\$ 484,832,951
(4) Actuarial value of assets	<u>711,931,422</u>	<u>474,746,152</u>
(5) Unfunded actuarial accrued liability (UAAL): (3) – (4)	<u>\$ (112,177,717)</u>	<u>\$ 10,086,799</u>
(6) Contribution Rate as a % of Payroll		
(a) Normal Cost	4.17%	3.23%
(b) UAAL	<u>(5.27%)</u>	<u>0.47%</u>
(c) Total	(1.10%)	3.70%
(7) Contribution in Dollars		
(a) Normal Cost	\$ 6,974,000	\$ 5,402,000
(b) UAAL	<u>(8,814,000)</u>	<u>786,000</u>
(c) Total	\$ (1,840,000)	\$ 6,188,000

\*Reflects changes to the initial per capita health care costs and contribution rates for those retirees participating in the 2016 Secure Plan and 2016 Select Plan to reflect the System's recent experience and the rates of health care inflation used to project the per capita health care costs.



**SCHEDULE B**  
**VALUATION BALANCE SHEET**

Present and prospective assets and liabilities as of December 31, 2015:

<u>ACTUARIAL LIABILITIES</u>		
Present value of prospective retiree health benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits		\$ 337,620,535
Present value of prospective retiree health benefits payable on account of present active members		<u>189,419,850</u>
Total liabilities		<u>\$ 527,040,385</u>
<u>PRESENT AND PROSPECTIVE ASSETS</u>		
Actuarial value of assets		\$ 474,746,152
Present value of future contributions		
City normal contributions	\$ 42,207,434	
Unfunded accrued liability contributions	<u>10,086,799</u>	
Total prospective contributions		<u>\$ 52,294,233</u>
Total assets		<u>\$ 527,040,385</u>



### SCHEDULE C

#### DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets as of December 31, 2014	\$ 706,958,599
(2)	Market Value of Assets as of December 31, 2015	\$ 456,918,000
(3)	Market Value of Assets as of December 31, 2014*	\$ 740,537,000
(4)	Net Cash Flow During Plan Year	
(a)	Contributions	\$ 1,056,000
(b)	Net Benefit Payments and Net Transfers	(43,591,000)
(c)	Transfer per Collective Settlement Agreement	(220,000,000)
(d)	Transfer Earnings and Expenses Adjustment	(17,897,000)
(e)	Administrative Expenses	(2,364,000)
(f)	Investment Expenses	(3,278,000)
(g)	Net Cash Flow: (a) + (b) + (c) + (d) + (e) + (f)	\$ (286,074,000)
(5)	Investment Income	
(a)	Market Total: (2) – (3) - (4)(g)	\$ 2,455,000
(b)	Assumed Rate	7.50%
(c)	Amount for Immediate Recognition [(3) x (5)(b)] + {[ (4)(a) + (4)(b) + 4(e) ] x (5)(b) x 0.5} - (4)(f)	\$ 57,134,563
(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	\$ (54,679,563)
(6)	Recognized Amounts for Plan Year	
(a)	Current Year: 0.20 x (5)(d)	\$ (10,935,913)
(b)	First Prior Year*	(468,048)
(c)	Second Prior Year	11,838,705
(d)	Third Prior Year	5,331,230
(e)	Fourth Prior Year	(9,038,984)
(f)	Total Recognized Investment Gain/(Loss)	\$ (3,273,010)
(7)	Actuarial Value of Assets as of December 31, 2015	
	(1) + (4)(g) + (5)(c) + (6)(f)	\$ 474,746,152
	80% of Market Value EOY	365,534,400
	120% of Market Value EOY	548,301,600
(8)	Final Actuarial Value of Assets as of December 31, 2015	\$ 474,746,152
(9)	Rate of Return on Actuarial Value	7.39%

\*Includes a correction to the December 31, 2014 information. This correction increased the market value of assets by \$2,815,000 and increased the actuarial value of assets by \$563,200.

**SCHEDULE D****CURRENT ASSET INFORMATION**

<i>Receipts</i>		
(1) Contributions		
• City Contributions	\$ 0	
• Medicare Retiree Drug Subsidy Receipts	<u>1,056,000</u>	
Total Contributions		\$ 1,056,000
(2) Investment Income		
• Interest and Dividends	\$ 9,556,000	
• Net Appreciation (Depreciation) in Fair Value of Investments	(7,291,000)	
• Other Investment Earnings	190,000	
• Investment Expenses	<u>(3,278,000)</u>	
Total Investment Income		\$ (823,000)
(3) Total Receipts		\$ 233,000
<i>Disbursements</i>		
(4) Net Benefits Paid		
• Benefits Paid	\$ (44,631,000)	
• Health Care Benefits Adjustment	<u>1,040,000</u>	
• Total Net Benefits Paid		\$ (43,591,000)
(5) Administrative Expenses		<u>(2,364,000)</u>
(6) Total Disbursements		\$ (45,955,000)
<i>Transfer from Health to Pension</i>		
(7) Transfer per Collective Settlement Agreement	\$(220,000,000)	
(8) Earnings and Expenses Adjustment	<u>(17,897,000)</u>	
(9) Total CSA Transfer		\$(237,897,000)
(10) Net Increase/(Decrease): (3) + (6) + (9)		\$(283,619,000)
<i>Reconciliation of Asset Balances</i>		
(11) Market Value at December 31, 2014		\$737,722,000
(12) Reporting Adjustment		2,815,000
(13) Excess of Receipts Over Disbursements		<u>(283,619,000)</u>
(14) Market Value at December 31, 2015		\$456,918,000
(15) Estimated Rate of Return on Market Value of Assets		(0.11)%



**SCHEDULE D**  
**(continued)**

**HISTORICAL ASSET INFORMATION**  
**(\$ in thousands)**

Valuation Date	Actuarial Value of Assets		Market Value of Assets	
	Amount	Rate of Return	Amount	Rate of Return
12/31/2009	\$746,029	0.40%	\$621,691	19.13%
12/31/2010	726,412	2.43	657,319	13.10
12/31/2011	668,392	(1.65)	616,464	0.87
12/31/2012	634,173	0.15	652,864	11.95
12/31/2013	674,709	12.02	726,098	16.81
12/31/2014	706,959	10.01	737,722	6.38
12/31/2015	474,746	7.39	456,918	(0.11)





## **SCHEDULE E**

### **OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

VALUATION DATE: December 31, 2015

DISCOUNT RATE: 7.50% per year, net of investment expenses

HEALTH CARE COST TREND RATES: The initial per capita health care costs and contributions are expected to increase each year with inflation (trend). The following chart details the trend assumption by year and payment age.

Calendar Year	Payment Age <65	Payment Age 65+
2016	7.75%	5.75%
2017	7.00	5.50
2018	6.50	5.25
2019	6.00	5.00
2020	5.50	5.00
2021	5.25	5.00
2022+	5.00	5.00

AGE RELATED MORBIDITY: Per capita health care costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims is assumed to be:

Payment Age	Annual Increase
<30	0.0%
30 – 34	1.0
35 – 39	1.5
40 – 44	2.0
45 – 49	2.6
50 – 54	3.3
55 – 59	3.6
60 – 64	4.2
65 – 69	3.0
70 – 74	2.5
75 – 79	2.0
80 – 84	1.0
85 - 89	0.5
90+	0.0

RETIREE HEALTH CARE PLAN INITIAL PER CAPITA COSTS: Paid claims and cost data were provided by the System, Anthem, and OptumRx for the period of January 1, 2015 through December 31, 2015. Claims data were provided separately for medical and prescription drug benefits. CMC accepted this information without audit and has relied upon the sources for the accuracy of the data; however, CMC did review the information for reasonableness. On the basis of this review, CMC believes the data and information provided to be sufficiently complete and reliable, and that it is appropriate for the purposes intended.



**SCHEDULE E**  
**(continued)**

Assumed adult per capita health care costs were based on past experience and trended forward to the valuation period. Costs were adjusted to account for any changes in administration, plan changes and large claims, if appropriate. As some participants elect to cover dependents, the assumed adult costs include the additional costs of coverage for non-spouse dependents.

Future experience may differ significantly from the cost estimates presented in this report due to unforeseen and random events. As such, the valuation's results should be viewed as having a likely range of variability.

The following chart details the initial adult per capita health care cost assumptions. These amounts include medical, drug, and administrative costs and represent the full cost of providing benefits. The average medical, drug, and administrative costs shown are normalized to age 65 and then age adjusted in calculating liabilities. Additionally, health care costs for all prospective health care plan participants and existing retirees not yet age 65 who were hired prior to April 1, 1986 are adjusted to account for their potential ineligibility for premium-free Medicare Part A.

Annual Medical, Drug*, and Administrative Costs			
Plan	Payment Age <65	Payment Age 65+	
		Not Enrolled in Medicare Part A	Enrolled in Medicare Part A
2016 Secure Plan	\$20,723	\$6,617	\$3,498
2016 Select Plan	\$15,291	\$6,186	\$2,967
2016 Model Plan	\$15,058	\$5,765	\$2,841

The methodology used to develop the initial adult per capita health care cost assumptions has been revised from that used in prior valuations to reflect the January 1, 2016 transition to prescription drug benefits provided through a Medicare Prescription Drug Plan (PDP). As the Plan will no longer participate in the Centers for Medicare & Medicaid Services' (CMS) Retiree Drug Subsidy Program, the Medicare Part D subsidies implicit in the lower costs for PDPs are recognized in the liability under GASB Statements No. 43 and No. 45.

**RETIREE HEALTH CARE PLAN CONTRIBUTIONS:** Assumed adult per capita health care contribution rates were developed for those participants in the 2016 Select Plan who are required to contribute a portion of retiree health benefit costs as defined in Schedule C. Contributions were determined to fully-fund retiree health benefit costs in 2016 based upon Medicare eligibility status. Rates are based on retiree cost experience, enrollment, and trended based on the assumptions. The following chart details the full (100%) adult per capita contribution assumptions. These amounts include medical, drug, and third party administrative costs.

2016 Select Plan			
Payment Age <65	Payment Age 65+		
	Not Enrolled in Medicare Part A	Enrolled in Medicare Part A	Current Average
\$12,720	\$7,670	\$3,774	\$4,089

As the 2016 Select Plan is effectively closed to new participants, the applicable sections of the CSA have been interpreted to indicate the contribution rates for those projection years beyond 2016 will be based upon the 2016 Select Plan's current demographics. If the intent of the CSA was to have the 2016 Select Plan's contribution rates increase as the covered group matures, the resulting liability may be lower by a material amount.



**SCHEDULE E**  
**(continued)**

**HEALTH BENEFIT PLAN PARTICIPATION:** Actual census data and current plan elections provided by the System were used for those currently receiving retiree health benefits. Group 1 members who retired prior to September 1, 2007 and currently qualify for the 2016 Secure Plan, are assumed to re-qualify in all future years. All current participants not qualifying for the 2016 Secure Plan are covered by the 2016 Select Plan. Current participants are assumed to maintain their retiree health benefits coverage until they are no longer eligible.

The active members of Group C with at least 15 years of creditable service shall be entitled to retiree health benefits under the 2016 Select Plan as Group 1 members. All other eligible future retirees electing retiree health benefits are assumed to be covered by the 2016 Model Plan. 90% of eligible future retirees in Group 1 are assumed to elect retiree health benefits. Eligible future retirees in Group 2 are required to pay the portion of their cost as determined by the point system, so retiree health benefit election rates are assumed to reduce as the level of cost sharing increases. The point system is based upon the sum of the member's full years of service and the member's age at separation from service. The assumed contribution rates and rates of participation for Group 1 and Group 2 members are as follows:

Group	Assumed Rate of Participation (%)	Retiree Contribution of Cost (%)	
		2016 Select Plan	2016 Model Plan
Group 1 / Group 2 with 90+ Points	90	5	10
Group 2 with 80 – 89 Points	80	25	25
Group 2 with 70 – 79 Points	60	50	50
Group 2 with 60 – 69 Points	40	75	75

For those eligible future retirees of Group 2 with less than 60 points, the System will pay 25% of the full premium for retiree coverage only (spouse or dependent coverage are not available). It is assumed 0% of these eligible future retirees will elect retiree health benefits.

As credible experience for Group 2 participation is not yet available, the rates of participation are estimates and actual results may be materially different. As such, this assumption will need to be revised as credible experience evolves.

**SPOUSE COVERAGE IN RETIREE HEALTH BENEFIT PLANS:** Actual census data, payment form elections, and current health care plan elections for spouses of current retirees were used. For spouses of eligible future retirees, a 100% spouse coverage election rate is assumed for those members choosing a joint & survivor payment form, and a 15% spouse coverage election rate is assumed for those members selecting a single life annuity payment form. Under a joint & survivor payment form, retiree health benefits are available until the death of the last annuitant.

**MEDICARE COVERAGE AND ELIGIBILITY:** Retiree health benefit participants age 65 and older who are eligible for premium-free Medicare Part A benefits are assumed to be enrolled in Medicare Part A. For those retiree health benefit participants who are not eligible for premium-free Medicare Part A coverage, the System is assumed to remain the primary payer. For a portion of the Medicare eligible group, the premium-free Medicare Part A eligibility status is provided by the System. As the premium-free Medicare Part A eligibility status is determined from a wide range of sources with varying and, at times, limited content, the premium-free Medicare Part A eligibility status data is incomplete. Adjustments have been made to account for this incompleteness. As the true status of those who are, or will be eligible for premium-free Medicare Part A is uncertain, actual results may be materially different. For all unidentified current retirees, hired prior to April 1, 1986, and not assumed eligible for premium-free Medicare Part A coverage through their spouse, as well as those active employees hired prior to April 1, 1986, 15% are assumed to not qualify for premium-free Medicare Part A coverage. The assumption of 15% is based upon estimates from the current retiree population. 100% of deferred vested members receiving health care benefits are assumed to obtain the 40 or more quarters of Medicare-covered employment required for premium-free Medicare Part A coverage as a result of their subsequent employment.

All retiree health benefit participants age 65 and older are assumed to be enrolled in Medicare Part B.



**SCHEDULE E**  
**(continued)**

**SALARY INCREASES:** Salary increases are assumed to vary by service. In addition, salary increases are assumed to be lower for a five-year select period beginning with the December 31, 2011 valuation. Representative rates are as follows:

Service	Annual Increase	
	Select Period	Ultimate Period
0	7.0%	7.5%
5	4.5	5.0
10	3.0	4.5
20	3.0	4.5
30	3.0	4.0

**SEPARATIONS FROM ACTIVE SERVICE:** For death rates, RP-2000 Combined Mortality Table set forward two years for males and set forward one year for females and using a Scale AA projection to 2020 was used. Representative values of the assumed annual rates of separation from active service are as follows:

Age	Annual Rate of Withdrawal			
	<u>Less than One Year of Service</u>	<u>Between One and Three Years of Service</u>	<u>Between Three and Five Years of Service</u>	<u>Five or More Years of Service</u>
20	25.0%	10.0%	7.5%	5.0%
25	25.0	10.0	7.5	5.0
30	25.0	10.0	7.5	3.5
35	25.0	10.0	4.0	2.8
40	25.0	10.0	4.0	2.3
45	25.0	10.0	4.0	1.5
50	25.0	10.0	4.0	1.5
55	25.0	10.0	4.0	1.5
60	25.0	10.0	4.0	1.5
65	25.0	10.0	4.0	1.5
70	25.0	10.0	4.0	1.5



**SCHEDULE E**  
**(continued)**

Annual Rate of Retirement				
<u>Age</u>	<u>Early Retirement</u>	<u>Less than 30 Years of Service</u>	<u>30 Years of Service</u>	<u>31+ Years of Service</u>
<b>Current Employees Class - Groups C, D, E, and F*</b>				
50			45.0	30.0
55	10.0%		45.0	30.0
59	10.0		45.0	30.0
60		25.0%	30.0	25.0
61		20.0	20.0	20.0
65		20.0	20.0	20.0
70		100.0	100.0	100.0
<b>Non-CSA Participant - E, and F</b>				
50			45.0	30.0
55			45.0	30.0
57	10.0%		45.0	30.0
59	10.0		45.0	30.0
60		25.0%	30.0	25.0
61		20.0	20.0	20.0
65		20.0	20.0	20.0
70		100.0	100.0	100.0
<b>Group G</b>				
57	10.0%			
60	20.0			
62	20.0		25.0%	20.0%
65	20.0		25.0	20.0
67		25.0%	25.0	20.0
69		20.0	20.0	20.0
70		100.0	100.0	100.0

\* For purposes of valuing DROP benefits, the rates listed for 30 or more years of service are adjusted as follows:

- 30% of members who are expected to retire with 31, 32, 33, 34, or 35 years of service are assumed to enter the DROP upon attaining 30 year of service.
- 10% of members who are expected to retire with 30 years of service are assumed to enter the DROP upon attaining 30 years of service.



**SCHEDULE E**  
**(continued)**

<u>Age</u>	<u>Annual Rate of Disability</u>	
	<u>Groups C, D, E, and F</u>	<u>Group G</u>
20	0.01%	0.01%
25	0.02	0.02
30	0.03	0.03
35	0.05	0.05
40	0.09	0.09
45	0.15	0.15
50	0.27	0.27
55	0.42	0.42
60	0.00	0.50
67	0.00	0.00

**DEATHS AFTER RETIREMENT:** The RP-2000 Combined Mortality Table set forward two years for males and set forward one year for females and using a Scale AA projection to 2020 is used for the period after retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table (set back 5 years for females) is used for the period after disability.

**EXPENSES:** Estimated budgeted administrative expenses of 0.38% of payroll are added to the normal cost rate.

**PERCENT MARRIED:** 70% of male members and 30% of female members are assumed to be married and elect a joint & survivor payment form. Males are assumed to be three years older than their spouse.

**ASSETS:** Actuarial value, as developed in Schedule C. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value. In addition, the actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

**WITHDRAWAL ASSUMPTION:** It was assumed that 50% of the vested members who terminate elect to withdraw their contributions while the remaining 50% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date.

**VALUATION METHOD:** Entry age actuarial cost method. See Schedule F for a brief description of this method.

**PERCENT ELECTING MEDICAL EXPENSE REIMBURSEMENT PROGRAM (MERP):** Based upon no initial participation in the MERP, 0% of current and future retiree health benefits participants are assumed to elect the MERP. As credible experience for MERP participation is not yet available, the assumed rate of participation is an estimate and actual results may be materially different. As such, this assumption will need to be reviewed as credible experience evolves.

**PART-TIME EMPLOYEES:** On July 1, 1991, the plan was amended to include part-time employees. As these employees do not exhibit the same decremental patterns as full-time employees, and the liability is deemed to be de minimis, the results of this valuation are based upon full-time employees only.



## **SCHEDULE F**

### **ACTUARIAL COST METHOD**

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.50%), of each member's expected retiree health benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a retiree health benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. The present value of the expected retiree health benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected retiree health benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the retiree health benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the entry age actuarial cost method. Under this method, a calculation is made to determine the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected retiree health benefits to be paid from the System.



## **SCHEDULE G**

### **SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES**

#### **Pension Benefit Eligibility**

All active employees of the City except for the following:

- Members of the State Police and Fireman's Disability and Pension Fund.
- Employees for whom the City contributes to PERS.
- Elected officials.

As part of the plan provisions from Ordinance 84-2011 that was passed by the City Council on March 16, 2011 and adopted by the Board, participants in the System were divided into the following groups:

Group	Criteria
A, B	Retirees as of 7/1/2011.
C	Active members who attain 30 years of service or age 60 with 5 years of service before 7/1/2011.
D	Active members who first attain 30 years of service or age 60 with 5 years of service on or after 7/1/2011 but before 1/1/2014 and retire on or before 1/1/2014.
E	Active members who first attain 30 years of service or age 60 with 5 years of service on or after 7/1/2011 but before 1/1/2014 and retire after 1/1/2014.
F	Active members hired before 1/1/2010 and not in groups C, D, or E.
G	Active members hired on or after 1/1/2010.

As part of the CSA approved by the Court on October 5, 2015 and generally effective January 1, 2016, participants in the System were further classified as follows:

Class	Criteria
Retirees Class	Retirees as of 7/1/2011 and their designated optionees.
Current Employees Class	Participants with at least 5-years of service and were actively employed on July 1, 2011 and were members of Groups C, D, E, and F.
Non-CSA participants	All other participants who are not included as part of the CSA.





**SCHEDULE G**  
**(continued)**

Pension Benefit Eligibility (continued)

Years of Service: Years or fractional years of full-time service rendered to the plan sponsor.

Normal Retirement

*Groups A, B, C, and D:*

Age 60 with 5 years of service or 30 years of service.

*Groups E and F – Current Employees Class:*

Age 60 with 5 years of service or 30 years of service.

*Groups E and F – Non-CSA Participants:*

Age 65 with 5 years of service or age 60 with 30 years of service.

*Group G:*

Age 67 with 5 years of service or age 62 with 30 years of service.

Reduced Normal Retirement

*Groups E and F – Non-CSA Participants:*

Age 60 with 5 years of service or 30 years of service.

Early Retirement

*Groups A, B, C, and D:*

Age 55 with 25 years of service.

*Groups E and F – Current Employees Class:*

Age 55 with 25 years of service.

*Group F – Non-CSA Participants:*

Prior to January 1, 2014, age 55 with 25 years of service or age 57 with 15 years of service.  
On or after January 1, 2014, age 57 with 15 years of service.

*Group G:*

Age 57 with 15 years of service.

Deferred Retirement Option Plan (DROP): Current Employees Class members with at least 30 years of service may participate in the DROP.

Disability Retirement Eligibility: 5 years of service.

Deferred Vested Retirement Eligibility: 5 years of service.



**SCHEDULE G**  
**(continued)**

Retiree Health Benefits Eligibility

Group 1: Those members of Group C or those members hired before January 9, 1997. For those members of Group C or those members who retire under the System prior to January 1, 2016 (including their survivors receiving pension benefits), a minimum of 15 years of service is required. For those members who retire under the System after December 31, 2015 (including their survivors receiving pension benefits), a minimum attained age of 60 with 20 years of service or 30 years of service regardless of age is required. Additionally, a surviving spouse, eligible dependent child, and orphan receiving survivor pension benefits as a result of death during employment, if the employee has at least 18 months of service at the time of death.

Group 2: Those participants hired on or after January 9, 1997. For those members who retire under the System prior to January 1, 2016 (including their survivors receiving pension benefits), a minimum of 15 years of service is required. For those members who retire under the System after December 31, 2015 (including their survivors receiving pension benefits), a minimum attained age of 60 with 20 years of service or 30 years of service regardless of age is required. Group 2 participants entitled to a deferred retirement allowance are eligible for health benefits upon attainment of the Medicare eligibility age.

Deferred Retirement Option Plan (DROP): Eligible Current Employees Class members may effectively retire and freeze their accrual of years of service with the System and defer receipt of retirement benefits, including retiree health benefits, for a period not to exceed five years while continuing City employment.

Members and Beneficiaries Assumed to be Eligible for Deferred Retiree Health Benefits as of December 31, 2015: The CSA has been interpreted to indicate those members and beneficiaries entitled to deferred retiree health benefits prior the effective date of the CSA will continue to be eligible for benefits based upon a minimum of 15 years of service. As coverage is based upon retirement after December 31, 2015, coverage is assumed to be provided under the 2016 Model Plan. If the intent of the CSA was to require a minimum attained age of 60 with 20 years of service or 30 years of service regardless of age, the resulting liability may be lower.

Dependents: A retiree may elect to cover an eligible spouse and/or eligible dependent children by paying the applicable retiree contribution rate for the specified enrollment tier.



**SCHEDULE G**  
**(continued)**

Retiree Health Benefits

The System offers health care benefits (medical, prescription drugs, dental, and vision coverage) to eligible retirees, beneficiaries, and their dependents before and during Medicare eligibility.

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, members who retired prior to September 1, 2007, and who establish their annual household income to be less than \$30,000, are eligible to receive medical and prescription drug coverage under the 2016 Secure Plan. Those members who retired prior to September 1, 2007 who do not qualify for coverage under the 2016 Secure Plan may elect medical and prescription drug coverage through the 2016 Select Plan.

Those members of Group C or those members who retired on or after September 1, 2007 (including those employees who retired under a special incentive plan in 2007) but prior to January 1, 2016 may elect medical and prescription drug coverage through the 2016 Select Plan. Those members not eligible for the 2016 Secure Plan or the 2016 Select Plan may elect coverage under the 2016 Model Plan.

Retiree Contributions

Participants covered by the 2016 Secure Plan do not contribute towards the cost of medical and prescription drug coverage. Group 1 participants covered by the 2016 Select Plan contribute an amount equal to five percent of the full cost of medical and prescription drug benefits of the retiree group with costs adjusted based upon the Medicare eligibility age (age 65). Group 1 participants covered by the 2016 Model Plan contribute an amount equal to ten percent of the full cost of medical and prescription drug benefits of the retiree group with costs adjusted based upon the Medicare eligibility age (age 65). Group 2 participants will pay the portion of the full cost of medical and prescription drug benefits of the coverage option for which they are eligible as determined by the point system.

Points	Retiree Contribution of Cost (%)	
	2016 Select Plan	2016 Model Plan
90+	5	10
80 – 89	25	
70 – 79	50	
60 – 69	75	
Less than 60	75% of full premium for retiree only (spouse or dependent coverage is not available)	



**SCHEDULE G**  
**(continued)**

Active Service Death Benefits

A surviving spouse, eligible dependent child, and orphan receiving survivor pension benefits as a result of death during employment is eligible to receive Group 1 retiree health benefits, if the employee has at least 18 months of service at the time of death. Coverage based upon in-service deaths occurring prior to January 1, 2016 is provided under the 2016 Select Plan. Coverage based upon in-service deaths occurring after December 31, 2015 is provided under the 2016 Model Plan.

Medicare Part B Premium Reimbursement

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, the System no longer reimburses the Medicare Part B premiums for retirees and spouses. As such, it is assumed the System has no liability under GASB 43 and 45 for Medicare Part B premium reimbursements.

All Medicare eligible retirees and dependents are responsible for the payment of the required Medicare Part B premiums. Retiree health benefits participants who are eligible for but do not enroll or maintain their enrollment in Medicare Part B will be responsible for the medical expenses Medicare Part B otherwise would have paid. As such, it is assumed the System is the secondary payer for Medicare Part B benefits.

Dental Benefits

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, all members electing to participate in the dental plan will be required to pay the full cost of dental coverage. As such, it is assumed the System has no liability under GASB 43 and 45 for dental benefits.

Vision Benefits

Under the provisions of Ordinance 85-2011, beginning January 1, 2012, all members electing to participate in the vision plan will be required to pay the full cost of vision coverage. As such, it is assumed the System has no liability under GASB 43 and 45 for vision benefits.



## SCHEDULE H

### TABLE 1

#### SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE AS OF DECEMBER 31, 2015

Age	Completed Years of Service							Total
	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	
Under 20								
Avg Pay								
20 - 24	26							26
Avg Pay	37,888							37,888
25 - 29	134	27						161
Avg Pay	45,093	46,821						45,382
30 - 34	155	99	38	1				293
Avg Pay	48,808	52,746	48,318	50,054				50,079
35 - 39	108	85	47	34	1			275
Avg Pay	50,739	50,607	50,385	60,160	57,369			51,827
40 - 44	76	73	79	55	16	3		302
Avg Pay	56,918	59,667	57,791	60,322	64,467	50,355		58,766
45 - 49	78	72	82	92	69	79	3	475
Avg Pay	55,417	54,966	55,246	57,630	63,424	62,159	54,482	58,026
50 - 54	55	38	60	69	98	208	35	563
Avg Pay	58,676	54,259	54,910	56,809	62,503	62,434	68,172	60,393
55 - 59	36	47	47	69	72	181	60	512
Avg Pay	56,799	60,550	56,921	54,604	58,834	61,251	64,226	59,589
60 - 64	16	22	31	31	34	56	22	212
Avg Pay	59,383	71,775	55,582	58,745	57,169	60,682	68,641	60,969
65 - 69	5	10	17	15	15	12	8	82
Avg Pay	116,543	66,620	59,855	61,174	53,127	57,875	74,178	64,255
70 & Over	2	2	3	5	6	5	7	30
Avg Pay	160,987	50,647	44,410	63,159	58,460	53,581	75,052	67,210
Total	691	475	404	371	311	544	135	2,931
Avg Pay	51,878	55,484	54,811	57,836	60,829	61,572	66,903	57,062

Average Age 47.33

Average Service

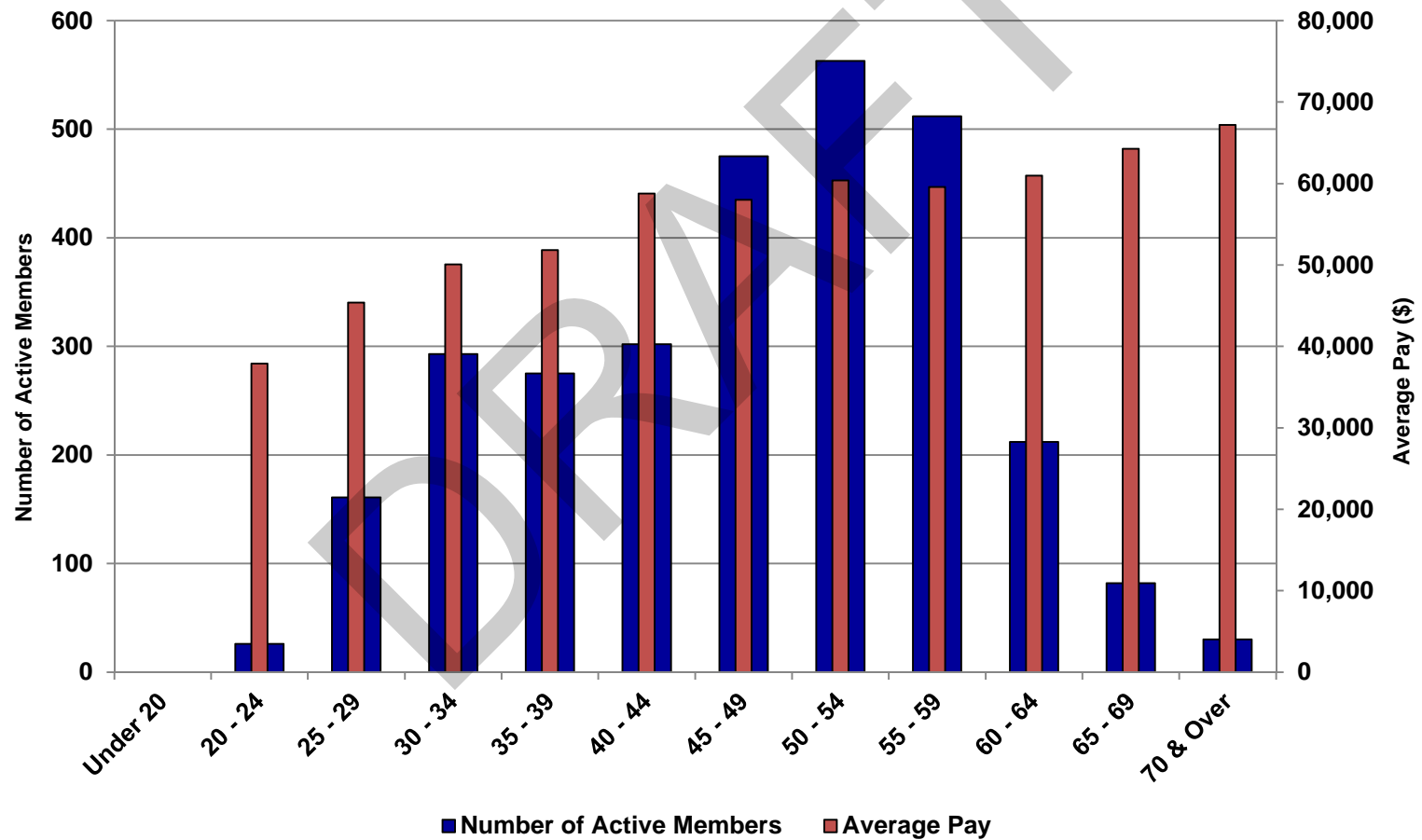
14.15



**SCHEDULE H**  
**(Continued)**

**CHART 1**

**DISTRIBUTION OF ACTIVE MEMBERS BY AGE**  
**AS OF DECEMBER 31, 2015**





**SCHEDULE H**  
**(Continued)**

**TABLE 2**

**SCHEDULE OF PARTICIPATING RETIREES/SURVIVING SPOUSES AND COVERED SPOUSES BY AGE  
AS OF DECEMBER 31, 2015**

<u>Attained Age</u>	<u>Number of Retirees/Surviving Spouses</u>	<u>Number of Covered Spouses</u>	<u>Total</u>
39 & Under	0	1	1
40 - 44	3	2	5
45 - 49	7	8	15
50 - 54	38	62	100
55 - 59	249	170	419
60 - 64	652	349	1,001
65 - 69	842	365	1,207
70 - 74	586	224	810
75 - 79	480	163	643
80 - 84	431	92	523
85 - 89	314	30	344
90 - 94	181	14	195
95 - 99	57	2	59
100 & Over	7	0	7
<b>Total</b>	<b>3,847</b>	<b>1,482</b>	<b>5,329</b>

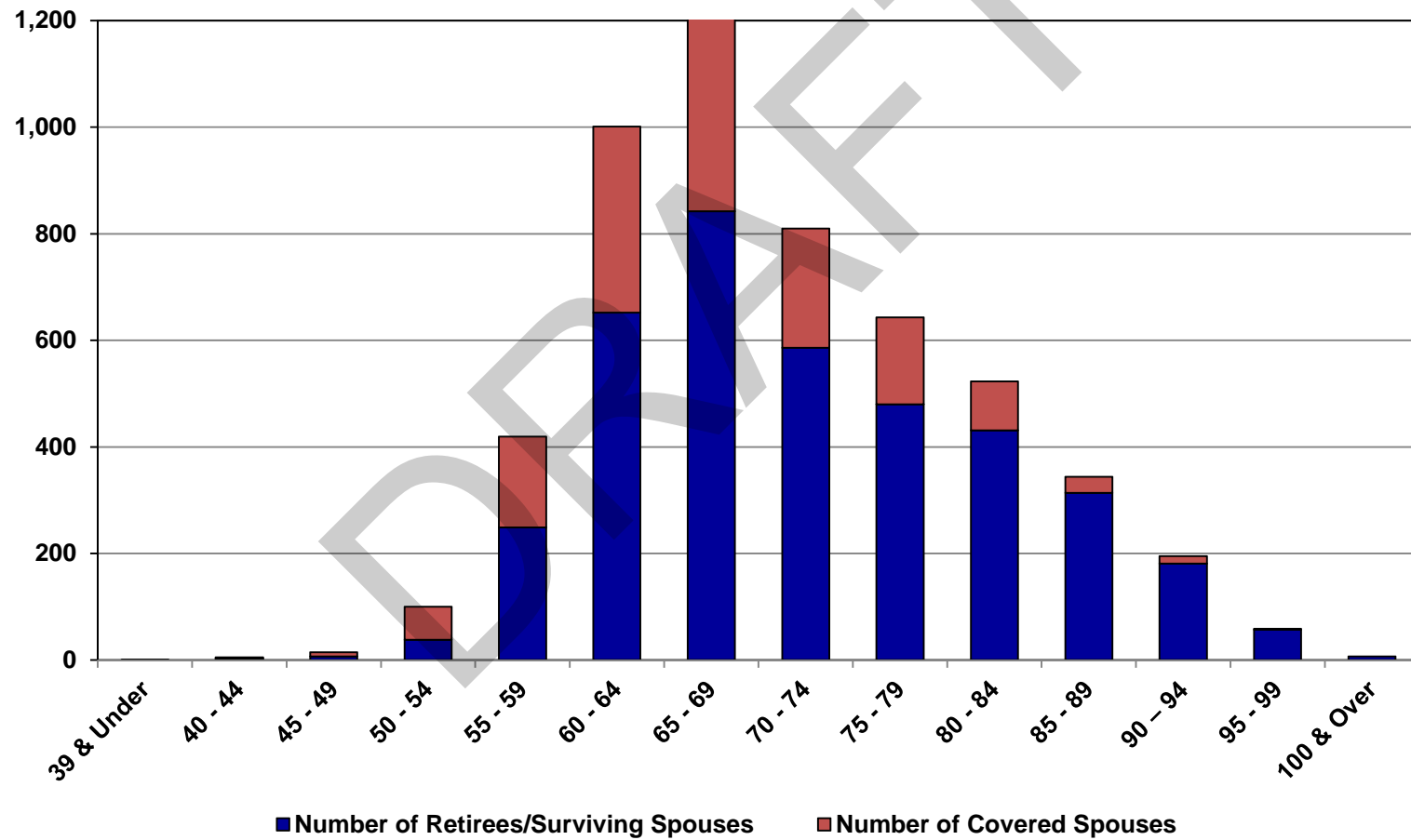
In addition, there are 54 members and beneficiaries assumed to be eligible for deferred retiree health benefits.



**SCHEDULE H**  
**(Continued)**

**CHART 2**

**SCHEDULE OF PARTICIPATING RETIREES/SURVIVING SPOUSES AND COVERED SPOUSES BY AGE**  
**AS OF DECEMBER 31, 2015**







**SCHEDULE H**  
**(Continued)**

**TABLE 3**

**SCHEDULE OF PARTICIPATING RETIREES/SURVIVING SPOUSES  
AND COVERED SPOUSES BY HEALTH CARE PLAN  
AS OF DECEMBER 31, 2015**

<u>Health Care Plan</u>	<u>Age &lt; 65</u>	<u>Age 65+</u>	<u>Total</u>
2016 Secure Plan	21	265	286
2016 Select Plan	1,520	3,523	5,043
2016 Model Plan	0	0	0
<b>Total</b>	<b>1,541</b>	<b>3,788</b>	<b>5,329</b>



# SCHEDULE I

## ANALYSIS OF FINANCIAL EXPERIENCE

### Gains & Losses in Unfunded Accrued Liabilities Resulting from Difference Between Assumed Experience & Actual Experience (\$ Thousands)

Type of Activity	\$ Gain (or Loss) For Year Ending 12/31/2015	\$ Gain (or Loss) For Year Ending 12/31/2014
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (2,392)	\$ (331)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(61)	115
<b>Death-in-Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(84)	(66)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	698	2,291
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss. Applies to salary-based benefits.	0	0
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(1,257)	(1,001)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(749)	16,510
<b>Death After Retirement.</b> If retirees live longer than assumed, there is a loss. If not as long, a gain.	6,524	6,538
<b>Other.</b> Miscellaneous gains and losses resulting from changing demographics of the retired membership, changes in valuation software, data adjustments, timing of financial transactions, etc.	40	10,191
<b>Gain (or Loss) During Year From Experience</b>	<u>\$ 2,719</u>	<u>\$ 34,247</u>
<b>Non-Recurring Items.</b> Adjustments for plan amendments, asset transfers, assumption changes, or method changes.	<u>(132,436)</u>	<u>25,921</u>
<b>Composite Gain (or Loss) During Year</b>	<u>\$ (129,717)</u>	<u>\$ 60,168</u>



**Cavanaugh Macdonald**  
CONSULTING, LLC

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**Report of the Actuary on the  
Annual Valuation of the  
Retirement System for Employees of  
the City of Cincinnati**

**Pension Report**

**Prepared as of December 31, 2015  
and Presented to the Board of  
Trustees for Approval on August 4, 2016**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

August 4, 2016

Board of Trustees  
Retirement System for Employees of the City of Cincinnati  
801 Plum Street  
Cincinnati, OH 45202

Members of the Board:

We are pleased to submit the results of the pension actuarial valuation of the Retirement System for Employees of the City of Cincinnati (CRS) prepared as of December 31, 2015. The purpose of this report is to provide a summary of the funded status of the System as of December 31, 2015 and to recommend actuarially determined contribution rates. The information needed for the City under Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67 and 68) will be provided in a separate report. However, for informational purposes, we have also provided accounting information under GASB 25 and 27 in Section VI.

On the basis of the valuation, it is recommended that employer contributions to the System be set at a rate of 27.92% of payroll (approximately \$46,689,000) for the City's fiscal year ending June 30, 2017. This includes \$1,280,607, or 0.77% of payroll, for the remaining 2007 Early Retirement Incentive Program (ERIP) for the Metropolitan Sewer District (MSD). The benefits of the System are included in the calculated contribution rate which is developed using the entry age cost method. Five-year smoothed market value of plan assets is used for the actuarial value of assets. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions within a 30-year period.

The valuation reflects the plan and funding changes included in the Collaborative Settlement Agreement (CSA) between the City of Cincinnati (City) and various plaintiff groups representing certain active and retired members of CRS as approved by the United States District Court for the Southern District of Ohio, Western Division (Court) on October 5, 2015 and generally effective January 1, 2016. As some of the changes outlined in the CSA have yet to be finalized or may be subject to interpretation, the valuation represents our understanding of the CSA as of the valuation date.

Per the CSA, the City contribution to CRS is expected to be 16.25% of payroll each year. Contributions at this level will never amortize the Unfunded Accrued Liability (UAL). However, members who began membership on or after January 1, 2010 are covered by a different benefit structure with a lower normal cost rate, so, as members who began membership prior to January 1, 2010 leave covered employment and are replaced by members in the lower cost benefit structure, the total normal cost rate is expected to decline. As a result, the portion of the 16.25% available to pay off the UAL is expected to increase each year in the future until all active members in the valuation are covered by the provision in the most recent benefit tier. While this is expected to improve the System's financial health in future years, it is impossible to anticipate the long-term funding progress without performing an open group projection of future valuation results. Such projections are performed to assist the Board in evaluating the long-term funding of the System, but the projections are completed after the valuation report is issued.

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Board of Trustees  
August 4, 2016  
Page 2

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the System and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial computations presented in this report are for purposes of determining the recommended funding amount for the System. Use of these computations for purposes other than meeting these requirements may not be appropriate.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the System.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward J. Koebel, EA, FCA, MAAA  
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Eric Gary'.

Eric Gary, FSA, FCA, MAAA  
Principal and Chief Health Actuary

EJK/EG:bdm



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**RETIREMENT SYSTEM FOR EMPLOYEES OF THE CITY OF CINCINNATI  
REPORT OF THE ACTUARY  
ON THE VALUATION  
PREPARED AS OF DECEMBER 31, 2015**

**PENSION REPORT**

**SECTION I – SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below.

<b>Valuation Date</b>	<b>December 31, 2015</b>	<b>December 31, 2014</b>
Active members:		
Number*	2,931	2,804
Annualized covered compensation	\$ 167,248,240	\$ 157,825,141
Retired members and beneficiaries receiving benefits:		
Number	4,264	4,319
Annual allowances	\$ 160,734,970	157,072,728
Number of members and beneficiaries entitled to deferred benefits	191	197
Assets:		
Market Value	\$ 1,670,524,000	\$ 1,522,851,000
Actuarial Value	1,703,002,075	1,453,922,202
Unfunded accrued liability	\$ 504,481,704	\$ 805,900,209
Amortization Period	30 years	30 years
Funded Ratio		
Market Value	75.7%	67.4%
Actuarial Value	77.1%	64.3%
<b>City's Fiscal Year Ending</b>	<b>June 30, 2017</b>	<b>June 30, 2016</b>
City actuarially determined contribution rate (ADC):		
Normal Cost**	3.85%	2.15%
Unfunded Accrued Liability	<u>23.30</u>	<u>38.25</u>
Sub-total	27.15%	40.40%
ERIP***	<u>0.77</u>	<u>3.91</u>
Total	27.92%	44.31%
City estimated actuarially determined contribution in dollars (ADC):		
Normal Cost**	\$ 6,439,000	\$ 3,393,000
Unfunded Accrued Liability	<u>38,969,000</u>	<u>60,368,000</u>
Sub-total	\$ 45,408,000	\$ 63,761,000
ERIP**	<u>1,281,000</u>	<u>6,178,000</u>
Total	\$ 46,689,000	\$ 69,939,000

\*In addition, there are 979 part-time employees at December 31, 2015.

\*\*Beginning with the December 31, 2015 valuation, estimated budgeted administrative expenses are included in the normal cost rate.

\*\*\*A \$32.9 million dollar payment was made by the City at the end of 2015 reducing the remaining annual ERIP payments to \$1,280,607, or 0.77% of payroll, beginning fiscal year 2017.



2. The major benefit and contribution provisions of the System as reflected in the valuation are summarized in Schedule G. The valuation reflects the plan and funding changes included in the CSA between the City and various plaintiff groups representing certain active and retired members of CRS as approved by the Court on October 5, 2015 and generally effective January 1, 2016. As some of the changes outlined in the CSA have yet to be finalized or may be subject to interpretation, the valuation represents our understanding of the CSA as of the valuation date.
3. Schedule E of this report outlines the full set of actuarial assumptions and methods used in the valuation.
4. Schedule C shows the development of the actuarial value of assets. The entry age actuarial cost method was used to prepare the valuation. Schedule F contains a brief description of the actuarial cost method.
5. Comments on the valuation results as of December 31, 2015 are given in Section IV, comments on the experience and actuarial gains and losses during the valuation year are given in Section VII and further discussion of the contributions is set out in Section V.
6. As shown in the Summary of Principal Results, the funding ratio is the ratio of assets to the accrued liability and is different based on market value of assets. The funded ratio is an indication of progress in funding the promised benefits. Since the ratio is less than 100%, there is a need for additional contributions toward payment of the unfunded accrued liability. In addition, this funded ratio does not have any relationship to measuring sufficiency if the plan had to settle its liabilities.





## **SECTION II – MEMBERSHIP DATA**

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the System. The valuation included 2,931 active members with annualized compensation totaling \$167,248,240. In addition, there are 979 part-time employees. The majority of these part-time employees are seasonal employees that have a minimal impact on the liabilities of the System.
2. The following table shows the number of retired members in receipt of a benefit and those members with a deferred benefit as of December 31, 2015 together with the amount of their annual retirement benefits payable under the System as of that date.

**THE NUMBER AND ANNUAL BENEFITS OF  
RETIRED MEMBERS AND BENEFICIARIES  
AS OF DECEMBER 31, 2015**

GROUP	NUMBER*	ANNUAL RETIREMENT BENEFITS
Participants Receiving Benefits	4,264	\$ 160,734,970
Participants with a Deferred Benefit	<u>191</u>	<u>3,090,977</u>
Total	4,455	\$ 163,825,947

\*In addition, there are 7,518 inactive participants who are former employees who have an employee account balance in the plan but are not otherwise vested in an employer provided benefit.

3. Table 1 in Schedule H shows a reconciliation of participating members for the past plan year; Table 2 in Schedule H shows the distribution by age and years of membership service of the number of active members included in the valuation; and Table 3 shows the number and annual benefits of retired members and beneficiaries included in the valuation, distributed by age.



### **SECTION III – ASSETS**

1. As of December 31, 2015, the total market value of assets amounted to \$2,127,442,000, as reported by the System, of which \$1,670,524,000 has been allocated for pension purposes. The estimated investment return for the plan year was (0.11)%. Schedule D shows the receipts and disbursements of the System for the year preceding the valuation date and a reconciliation of the System balances at market value.
2. The market-related actuarial value of assets using a 5-year smoothing technique of investment gains and losses is \$1,703,002,075. The estimated investment return for the plan year ending December 31, 2015 on an actuarial value of assets basis was 7.51%, which can be compared to the investment return assumed for the period of 7.50%. Schedule C shows the development of the actuarial value of assets as of December 31, 2015.

### **SECTION IV – COMMENTS ON VALUATION**

1. Schedule B of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of December 31, 2015. The valuation was prepared in accordance with the actuarial assumptions set forth in Schedule E and the actuarial cost method which is described in Schedule F.
2. The valuation balance sheet shows that the System has total prospective liabilities of \$2,371,479,665, of which \$1,647,154,186 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits, and \$724,325,479 is for the prospective benefits payable on account of present active members. Against these liabilities, the System has a total present actuarial value of assets of \$1,703,002,075 as of December 31, 2015. The difference of \$668,477,590 between the total liabilities and the total present assets represents the present value of future contributions.
3. The contributions to the System consist of normal contributions and accrued liability contributions. The normal cost rate is equal to the actuarial present value of benefits accruing during the current



year divided by the annual active members' payroll. Estimated budgeted administrative expenses are included in the normal cost rate. The expenses for the fiscal year ending June 30, 2017 are estimated to be 0.75% of payroll. The valuation indicates that normal contributions at the rate of 12.85% of payroll are required under the entry age method. Of this amount, 9.00% will be paid by the members and the remaining 3.85% is payable by the City.

4. Prospective normal contributions at the rate of 12.85% have a present value of \$163,995,886 net of administrative expenses. When this amount is subtracted from \$668,477,590, which is the present value of the total future contributions to be made, there remains \$504,481,704 as the amount of unfunded accrued liability contributions. The development of the unfunded accrued liability is shown in Schedule A.
5. Of the \$504,481,704, \$8,599,798 is due to the Early Retirement Incentive Plan (ERIP) that was being funded with separate contributions by the City through FY 2024. At the end of 2015, the City made a payment of \$32,900,000 for the portion of the ERIP liability allocated to the City. The remaining balance is that portion of the ERIP liability allocated to the Metropolitan Sewer District (MSD). After the valuation date, the MSD made a payment on March 11, 2016 of \$8,723,061, effectively paying off the remaining balance of the ERIP liability.
6. As can be seen from Schedule I of our report, the System had a total actuarial gain for the year. Most of this gain came as a result of the plan and funding changes included in the CSA between the City and various plaintiff groups representing certain active and retired members of CRS as approved by the Court on October 5, 2015 and generally effective January 1, 2016. The effect, in part, of these changes was a reduction in liabilities mainly due to a change from a compound COLA to a simple COLA for many members, as well as the introduction of a COLA suspension period for many active and retired members. The CSA also resulted in a transfer of assets from the Health Care Trust to the Pension Plan which reduced the unfunded accrued liability of the System. As for the actuarial experience of CRS for the valuation year, there was a relatively small experience loss. This was mainly due to losses from retirement and withdrawal experience during the year largely being offset by gains due to more retiree deaths than expected and lower salary increases than expected.



## **SECTION V – CONTRIBUTIONS PAYABLE**

1. The contributions consist of a normal contribution and an accrued liability contribution as determined by actuarial valuation.
2. The normal contribution rate is calculated as the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required to meet the cost of all benefits payable on his behalf. On the basis of the valuation, the normal contribution rate was determined to be 12.85%. Of this amount, 9.00% will be paid by the members and the remaining 3.85% is payable by the City.
3. A contribution of 23.30% of payroll will liquidate the portion of the unfunded accrued liability not attributed to the ERIP within a 30-year period.
4. An additional contribution of \$1,280,607, or 0.77% of payroll, for the ERIP liability allocated to the MSD is required for the City's fiscal year ending June 30, 2017. After the valuation date, the MSD made a payment on March 11, 2016 of \$8,723,061, effectively paying off the remaining balance of the ERIP liability.
5. The total contribution rate required for the City's fiscal year ending June 30, 2017 is, therefore, 27.92% of payroll.
6. The following table summarizes the employer contributions which were determined by the December 31, 2015 valuation and are recommended for use.

### **CITY ACTUARIALLY DETERMINED CONTRIBUTIONS (ADC) FOR CITY FISCAL YEAR ENDING JUNE 30, 2017**

	<b>PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION</b>	<b>EMPLOYER ACTUARIALLY DETERMINED CONTRIBUTION (ADC)</b>
Normal Cost	3.85%	\$ 6,439,000
Unfunded Accrued Liability	<u>23.30</u>	<u>38,969,000</u>
Sub-Total	27.15%	\$ 45,408,000
ERIP	<u>0.77</u>	<u>1,281,000</u>
Total	27.92%	\$ 46,689,000



## **SECTION VI – ACCOUNTING INFORMATION**

Governmental Accounting Standards Board Statements (GASB) has issued Statements No. 67 and 68 which replaces Statement No. 25 and 27 for plan years beginning after June 15, 2013. The information required under the new GASB Statements will be issued in separate reports. The following information is provided for informational purposes only.

1. The following is a distribution of the number of employees by type of membership:

### **NUMBER OF ACTIVE AND RETIRED PARTICIPANTS AS OF DECEMBER 31, 2015**

<b>GROUP</b>	<b>TOTAL</b>
Retired participants and beneficiaries currently receiving benefits	4,264
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	191
Inactive participants*	7,518
Active Participants	
Full-Time	2,931
Part-Time	<u>979</u>
Total	15,883

\* Participants who are former employees who have an employee account balance in the plan but are not otherwise vested in an employer provided benefit.



2. The schedule of funding progress as shown below.

**SCHEDULE OF FUNDING PROGRESS**  
Dollar Amounts in Thousands

Actuarial Valuation Date	Actuarial Value of Assets (a)	Accrued Liability (AL) Entry Age (b)	Unfunded AL (UAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/2010	\$1,565,949	\$2,085,987	\$520,038	75.1%	\$167,589	310.3%
12/31/2011	1,466,077	2,194,505	728,428	66.8	165,029	441.4
12/31/2012	1,367,695	2,229,818	862,123	61.3	167,148	515.8
12/31/2013	1,424,933	2,254,121	829,188	63.2	163,477	507.2
12/31/2014	1,453,922	2,259,822	805,900	64.3	164,575	489.7
12/31/2015	1,703,002	2,207,484	504,482	77.1	174,963*	288.3

\*Includes \$7,714,292 in part-time active employee compensation.

3. Additional information as of December 31, 2015 follows:

Valuation date	12/31/2015
Actuarial cost method	Entry age
Amortization period	Level dollar open
Remaining amortization period	30 years
Asset valuation method	Five-year smoothed market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	7.50%
Projected salary increases (includes inflation)*	3.00% - 7.50%
Inflation	3.00%
Cost-of-living adjustments	2.00% - 3.00%

\*Select salary increases for 5-year period beginning December 31, 2011.



## SECTION VII – EXPERIENCE

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended December 31, 2015 is shown below.

	<u>\$ Thousands</u>
(1) UAL* as of December 31, 2014	\$ 805,900
(2) Total normal cost from last valuation	18,264
(3) Total actual contributions, without ERIP payment	39,854
(4) Administrative Expenses	4,880
(4) Interest accrual: $[(1) + (2)] \times .075 - [(3) \times .0375]$	<u>60,501</u>
(5) Expected UAL before changes: $(1) + (2) - (3) + (4)$	\$ 849,691
(6) Change due to plan amendments	(345,573)
(7) Change due to actuarial assumptions or methods	<u>0</u>
(8) Expected UAL after changes: $(5) + (6) + (7)$	\$ 504,118
(9) Actual UAL as of December 31, 2015	\$ 504,482
(10) Gain/(loss): $(8) - (9)$	\$ (364)
(11) Gain/(loss) as percent of accrued liabilities at start of year (\$2,259,822)	(0.0)%

\*Unfunded accrued liability, prior to the restatement of the actuarial value of assets.

Valuation Date December 31	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2011	(7.2)%
2012	(5.0)%
2013	2.8%
2014	2.3%
2015	(0.0)%



**SCHEDULE A**

**DEVELOPMENT OF THE UNFUNDED ACCRUED LIABILITY**

	December 31, 2015	December 31, 2014
(1) Present value of prospective benefits:		
(a) Present active full time members	\$ 720,332,136	\$ 617,715,384
(b) Present active part time and seasonal members	3,993,343	3,669,692
(c) Present retired members, beneficiaries, former members entitled to deferred vested benefits and inactive members	<u>1,647,154,186</u>	<u>1,784,574,681</u>
(d) Total	\$ 2,371,479,665	\$ 2,405,959,757
(2) Present value of future normal contributions	<u>163,995,886</u>	<u>146,137,346</u>
(3) Actuarial accrued liabilities: 1(d) – (2)	\$ 2,207,483,779	\$ 2,259,822,411
(4) Actuarial value of assets	<u>1,703,002,075</u>	<u>1,453,922,202</u>
(5) Unfunded accrued liability (UAL): (3) – (4)	\$ 504,481,704	\$ 805,900,209
(6) Actuarially Determined Contribution Rate as a % of Payroll		
(a) Normal Cost	3.85%	2.15%
(b) UAL	<u>23.30%</u>	<u>38.25%</u>
(c) Sub-Total	27.15%	40.40%
(d) ERIP	<u>0.77%</u>	<u>3.91%</u>
(e) Total	27.92%	44.31%
(7) Estimated Contribution in dollars		
(a) Normal Cost	\$ 6,439,000	\$ 3,393,000
(b) UAL	<u>38,969,000</u>	<u>60,368,000</u>
(c) Sub-Total	\$ 45,408,000	\$ 63,761,000
(d) ERIP	<u>1,281,000</u>	<u>6,178,000</u>
(e) Total	\$ 46,689,000	\$ 69,939,000





**SCHEDULE B**  
**VALUATION BALANCE SHEET**

Present and prospective assets and liabilities as of December 31, 2015:

<u>ACTUARIAL LIABILITIES</u>		
Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, terminated members entitled to deferred benefits and inactive members		\$1,647,154,186
Present value of prospective benefits payable on account of present active members		<u>724,325,479</u>
Total liabilities		<u>\$2,371,479,665</u>
<u>PRESENT AND PROSPECTIVE ASSETS</u>		
Actuarial value of assets		\$1,703,002,075
Present value of future contributions		
City and Member Normal contributions	\$ 163,995,886	
Unfunded accrued liability contributions	<u>504,481,704</u>	
Total prospective contributions		<u>\$ 668,477,590</u>
Total assets		<u>\$2,371,479,665</u>



### SCHEDULE C

#### DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

(1)	Actuarial Value of Assets as of December 31, 2014	\$ 1,453,922,202
(2)	Market Value of Assets as of December 31, 2015	\$ 1,670,524,000
(3)	Market Value of Assets as of December 31, 2014*	\$ 1,528,815,000
(4)	Net Cash Flow During Plan Year	
(a)	Contributions	\$ 73,103,000
(b)	Benefit Payments and Net Transfers	(162,712,000)
(c)	Transfer per Collective Settlement Agreement	220,000,000
(d)	Transfer Earnings and Expenses Adjustment	17,897,000
(e)	Administrative Expenses	(4,880,000)
(f)	Investment Expenses	(6,768,000)
(g)	Net Cash Flow: (a) + (b) + (c) + (d) + (e) + (f)	\$ 136,640,000
(5)	Investment Income	
(a)	Market Total: (2) – (3) – (4)(g)	\$ 5,069,000
(b)	Assumed Rate	7.50%
(c)	Amount for Immediate Recognition	
	[(3) x (5)(b)] + [(4)(a) + (4)(b) + (4)(e)] x (5)(b) x 0.5] - (4)(f)	\$ 117,885,788
(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	\$ (112,816,788)
(6)	Recognized Amounts for Plan Year	
(a)	Current Year: 0.20 x (5)(d)	\$ (22,563,358)
(b)	First Prior Year*	(695,655)
(c)	Second Prior Year	25,772,630
(d)	Third Prior Year	11,893,860
(e)	Fourth Prior Year	(19,853,392)
(f)	Total Recognized Investment Gain/(Loss)	\$ (5,445,915)
(7)	Actuarial Value of Assets as of December 31, 2015	
	(1) + (4)(g) + (5)(c) + (6)(f)	\$ 1,703,002,075
	80% of Market Value EOY	1,336,419,200
	120% of Market Value EOY	2,004,628,800
(8)	Final Actuarial Value of Assets as of December 31, 2015	\$ 1,703,002,075
(9)	Rate of Return on Actuarial Value	7.51%

\*Includes a correction to the December 31, 2014 information. This correction increased the market value of assets by \$5,964,000 and increased the actuarial value of assets by \$1,192,800.



**SCHEDULE D**  
**CURRENT ASSET INFORMATION**

<i>Receipts</i>		
(1) Contributions		
• Member and Employer	\$ 72,754,000	
• Medicare Retiree Drug Subsidy Adjustment	<u>349,000</u>	
Total Contributions		\$ 73,103,000
(2) Investment Income		
• Interest and Dividends	\$ 19,729,000	
• Net Appreciation (Depreciation) in Fair Value of Investments	(15,053,000)	
• Other Investment Earnings	393,000	
• Investment Expenses	<u>(6,768,000)</u>	
Total Investment Income		\$ (1,699,000)
(3) Transfers from Other Retirement Systems		<u>\$ 456,000</u>
(4) Total Receipts		\$ 71,860,000
<i>Disbursements</i>		
(5) Pension Benefits Paid	\$ 162,020,000	
(6) Health Care Benefits Adjustment	1,040,000	
(7) Administrative Expenses	4,880,000	
(8) Transfers to Other Retirement Systems	<u>108,000</u>	
(9) Total Disbursements		\$ 168,048,000
<i>Transfer from Health to Pension</i>		
(10) Transfer per Collective Settlement Agreement	\$ 220,000,000	
(11) Earnings and Expenses Adjustment	<u>17,897,000</u>	
(12) Total Transfer		\$ 237,897,000
(13) Net Increase/(Decrease): (4) - (9) + (12)		\$ 141,709,000
<i>Reconciliation of Asset Balances</i>		
(14) Market Value at December 31, 2014		\$ 1,522,851,000
(15) Reporting Adjustment		5,964,000
(16) Net Increase/(Decrease)		<u>141,709,000</u>
(17) Market Value at December 31, 2015		\$ 1,670,524,000
(18) Estimated Rate of Return on Market Value of Assets		(0.11)%



**SCHEDULE D**  
**(Continued)**

**HISTORICAL ASSET INFORMATION**  
**(\$ in thousands)**

Valuation Date	Actuarial Value of Assets		Market Value of Assets	
	Amount	Rate of Return	Amount	Rate of Return
12/31/2010	\$1,565,949	2.07%	\$1,445,156	13.11%
12/31/2011	1,466,077	0.24	1,353,822	0.88
12/31/2012	1,367,695	0.25	1,409,032	12.06
12/31/2013	1,424,933	12.11	1,537,511	16.99
12/31/2014	1,453,922	10.18	1,522,851	6.46
12/31/2015	1,703,002	7.51	1,670,524	(0.11)

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## SCHEDULE E

### OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INVESTMENT RATE OF RETURN: 7.50% per year, net of investment expenses.

INFLATION ASSUMPTION: 3.00% per annum.

SALARY INCREASES: Salary increases are assumed to vary by service. In addition, salary increases are assumed to be lower for a five-year select period beginning with the December 31, 2011 valuation. Representative rates are as follows:

Service	Annual Increase	
	Select Period	Ultimate Period
0	7.0%	7.5%
5	4.5	5.0
10	3.0	4.5
20	3.0	4.5
30	3.0	4.0

SEPARATIONS FROM ACTIVE SERVICE: For death rates, RP-2000 Combined Mortality Table set forward two years for males and set forward one year for females and using a Scale AA projection to 2020 was used. Representative values of the assumed annual rates of separation from active service are as follows:

Age	Annual Rate of Withdrawal			
	Less than One Year of Service	Between One and Three Years of Service	Between Three and Five Years of Service	Five or More Years of Service
20	25.0%	10.0%	7.5%	5.0%
25	25.0	10.0	7.5	5.0
30	25.0	10.0	7.5	3.5
35	25.0	10.0	4.0	2.8
40	25.0	10.0	4.0	2.3
45	25.0	10.0	4.0	1.5
50	25.0	10.0	4.0	1.5
55	25.0	10.0	4.0	1.5
60	25.0	10.0	4.0	1.5
65	25.0	10.0	4.0	1.5
70	25.0	10.0	4.0	1.5



Annual Rate of Disability		
Age	<u>Groups C, D, E, and F</u>	<u>Group G</u>
20	0.01%	0.01%
25	0.02	0.02
30	0.03	0.03
35	0.05	0.05
40	0.09	0.09
45	0.15	0.15
50	0.27	0.27
55	0.42	0.42
60	0.00	0.50
67	0.00	0.00

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Annual Rate of Retirement				
Age	<u>Early Retirement</u>	<u>Less than 30</u>	<u>30 Years of</u>	<u>31+ Years of</u>
		<u>Years of Service</u>	<u>Service</u>	<u>Service</u>
Current Employees Class - Groups C, D, E, and F*				
50			45.0	30.0
55	10.0%		45.0	30.0
59	10.0		45.0	30.0
60		25.0%	30.0	25.0
61		20.0	20.0	20.0
65		20.0	20.0	20.0
70		100.0	100.0	100.0
Non-CSA Participant - E, and F				
50			45.0	30.0
55			45.0	30.0
57	10.0%		45.0	30.0
59	10.0		45.0	30.0
60		25.0%	30.0	25.0
61		20.0	20.0	20.0
65		20.0	20.0	20.0
70		100.0	100.0	100.0
Group G				
57	10.0%			
60	20.0			
62	20.0		25.0%	20.0%
65	20.0		25.0	20.0
67		25.0%	25.0	20.0
69		20.0	20.0	20.0
70		100.0	100.0	100.0

\* For purposes of valuing DROP benefits, the rates listed for 30 or more years of service are adjusted as follows:

- 30% of members who are expected to retire with 31, 32, 33, 34, or 35 years of service are assumed to enter the DROP upon attaining 30 year of service.
- 10% of members who are expected to retire with 30 years of service are assumed to enter the DROP upon attaining 30 years of service.



**DEATHS AFTER RETIREMENT:** The RP-2000 Combined Mortality Table set forward two years for males and set forward one year for females and using a Scale AA projection to 2020 is used for the period after retirement and for dependent beneficiaries. The RP-2000 Disabled Mortality Table (set back 5 years for females) is used for the period after disability.

**EXPENSES:** Estimated budgeted administrative expenses of 0.75% of payroll are added to the normal cost rate.

**COST-OF-LIVING ADJUSTMENT:** Members not covered under the Collaborative Settlement Agreement are assumed to receive 2.0% simple annual benefit increases.

**PERCENT MARRIED:** 70% of male members and 30% of female members are assumed to be married with the male three years older than his spouse.

**ASSETS:** Actuarial value, as developed in Schedule C. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value. In addition, the actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

**WITHDRAWAL ASSUMPTION:** It is assumed that 100% of vested members who terminate with less than 15 years of service elect to withdraw their contributions and that 50% of vested members who terminate with 15 or more years of service elect to withdraw their contributions while the remaining 50% elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date.

**DROP CREDITING RATE:** 3.0% annually.

**VALUATION METHOD:** Entry age actuarial cost method. See Schedule F for a brief description of this method.





## **SCHEDULE F**

### **ACTUARIAL COST METHOD**

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.50%), of each member's expected benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the entry age actuarial cost method. Under this method, a calculation is made to determine the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.



## **SCHEDULE G**

### **SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES**

#### **Eligibility**

All active employees of the City except for the following:

- Members of the State Police and Fireman's Disability and Pension Fund.
- Employees for whom the City contributes to PERS.
- Elected officials.

As part of the plan provisions from Ordinance 84-2011 that were passed by the City Council on March 16, 2011 and adopted by the Board, participants in the System were divided into the following groups:

Group	Criteria
A, B	Retirees as of 7/1/2011.
C	Active members who attain 30 years of service or age 60 with 5 years of service before 7/1/2011.
D	Active members who first attain 30 years of service or age 60 with 5 years of service on or after 7/1/2011 but before 1/1/2014 and retire on or before 1/1/2014.
E	Active members who first attain 30 years of service or age 60 with 5 years of service on or after 7/1/2011 but before 1/1/2014 and retire after 1/1/2014.
F	Active members hired before 1/1/2010 and not in groups C, D, or E.
G	Active members hired on or after 1/1/2010.

As part of the CSA approved by the Court on October 5, 2015 and generally effective January 1, 2016, participants in the System were further classified as follows:

Class	Criteria
Retirees Class	Retirees as of 7/1/2011 and their designated optionees.
Current Employees Class	Participants with at least 5-years of service and were actively employed on July 1, 2011 and were members of Groups C, D, E, and F.
Non-CSA participants	All other participants who are not included as part of the CSA.



## Service Retirement Benefit

### Groups A, B, C and D:

Normal Retirement Eligibility	Age 60 with 5 years of service or 30 years of service.
Early Retirement Eligibility	Age 55 with 25 years of service.
Benefit Formula Multiplier	Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.
Average Highest Compensation	Average of the highest three consecutive years of compensation.
Years of Service	Years or fractional years of full-time service rendered to the plan sponsor.
Benefit	<p>a) An annuity which is actuarially equivalent to the accumulated contributions of the member at the time of retirement.</p> <p>b) A pension which together with the annuity produces a total annual retirement allowance equal to the product of the applicable benefit formula multiplier, the member's average highest compensation, and the number of years of service.</p> <p>Early Retirement Benefit is actuarially reduced from normal retirement age.</p>

### Group E – Current Employees Class:

Normal Retirement Eligibility	Age 60 with 5 years of service or 30 years of service.
Early Retirement Eligibility	Age 55 with 25 years of service.

Retirement benefit is composed of as many as three components:

**Part A Benefit:** for service earned through December 31, 2013

**Part B Benefit:** for service earned on and after January 1, 2014 up to a combined 20 years of service

**Part C Benefit:** for service earned on or after January 1, 2014 in excess of a combined 20 years of service.



Benefit Formula Multiplier

**Part A Benefit:** Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.

**Part B Benefit:** Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.

**Part C Benefit:** 2.20% multiplier

Average Highest Compensation

**Part A Benefit:** Average of the highest three consecutive years of compensation

**Part B Benefit:** Average of the highest five consecutive years of compensation

**Part C Benefit:** Average of the highest five consecutive years of compensation

Years of Service

Years or fractional years of full-time service rendered to the plan sponsor.

Benefit

a) An annuity which is actuarially equivalent to the accumulated contributions of the member at the time of retirement.

b) A pension which together with the annuity produces a total annual retirement allowance equal to the sum of Part A, Part B, and Part C benefits each of which is the product of the applicable benefit formula multiplier, the applicable average highest compensation, and the applicable number of years of service.

Early Retirement Benefit is actuarially reduced from normal retirement age.

**Group E – Non-CSA participants:**

Normal Retirement Eligibility

Age 65 with 5 years of service or age 60 with 30 years of service.

Reduced Normal Retirement Eligibility

Age 60 with 5 years of service or 30 years of service.

Retirement benefit is composed of as many as three components:



**Part A Benefit:** for service earned through December 31, 2013

**Part B Benefit:** for service earned on and after January 1, 2014 up to a combined 30 years of service

**Part C Benefit:** for service earned on or after January 1, 2014 in excess of a combined 30 years of service.

Benefit Formula Multiplier

**Part A Benefit:** Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.

**Part B Benefit:** 2.20% multiplier

**Part C Benefit:** 2.00% multiplier

Average Highest Compensation

**Part A Benefit:** Average of the highest three consecutive years of compensation

**Part B Benefit:** Average of the highest five consecutive years of compensation

**Part C Benefit:** Average of the highest five consecutive years of compensation

Years of Service

Years or fractional years of full-time service rendered to the plan sponsor.

Benefit

- a) An annuity which is actuarially equivalent to the accumulated contributions of the member at the time of retirement.
- b) A pension which together with the annuity produces a total annual retirement allowance equal to the sum of Part A, Part B, and Part C benefits each of which is the product of the applicable benefit formula multiplier, the applicable average highest compensation, and the applicable number of years of service.

Reduced Normal Retirement Part A benefits will not be actuarially reduced.

Reduced Normal Retirement Part B and C benefits are actuarially reduced from normal retirement age.



**Group F– Current Employees Class:**

Normal Retirement Eligibility      Age 60 with 5 years of service or 30 years of service.

Early Retirement Eligibility      Age 55 with 25 years of service.

Retirement benefit is composed of as many as three components:

**Part A Benefit:** for service earned through June 30, 2011

**Part B Benefit:** for service earned on and after July 1, 2011 up to a combined 20 years of service

**Part C Benefit:** for service earned on or after July 1, 2011 in excess of a combined 20 years of service.

Benefit Formula Multiplier

**Part A Benefit:** Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.

**Part B Benefit:** Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.

**Part C Benefit:** 2.20% multiplier

Average Highest Compensation

**Part A Benefit:** Average of the highest three consecutive years of compensation

**Part B Benefit:** Average of the highest five consecutive years of compensation

**Part C Benefit:** Average of the highest five consecutive years of compensation

Years of Service

Years or fractional years of full-time service rendered to the plan sponsor.

Benefit

- a) An annuity which is actuarially equivalent to the accumulated contributions of the member at the time of retirement.
- b) A pension which together with the annuity produces a total annual retirement allowance equal to the sum of Part A, Part B, and Part C benefits each of which



is the product of the applicable benefit formula multiplier, the applicable average highest compensation, and the applicable number of years of service.

Early Retirement Benefit is actuarially reduced from normal retirement age.

**Group F Non-CSA participants:**

Normal Retirement Eligibility	Age 65 with 5 years of service or age 60 with 30 years of service.
Reduced Normal Retirement Eligibility	Age 60 with 5 years of service or 30 years of service.
Early Retirement Eligibility	Prior to January 1, 2014, age 55 with 25 years of service or age 57 with 15 years of service. On or after January 1, 2014, age 57 with 15 years of service.

Retirement benefit is composed of as many as three components:

**Part A Benefit:** for service earned through June 30, 2011

**Part B Benefit:** for service earned on and after July 1, 2011 up to a combined 30 years of service

**Part C Benefit:** for service earned on or after July 1, 2011 in excess of a combined 30 years of service.

Benefit Formula Multiplier	<b><u>Part A Benefit:</u></b> Members hired prior to July 12, 1998 were given a one-time irrevocable option to choose either the benefit formula using a 2.22% multiplier or the benefit formula using a 2.50% multiplier. For members hired on or after July 12, 1998, benefits are calculated using a 2.50% multiplier.
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**Part B Benefit:** 2.20% multiplier

**Part C Benefit:** 2.00% multiplier

Average Highest Compensation	<b><u>Part A Benefit:</u></b> Average of the highest three consecutive years of compensation
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**Part B Benefit:** Average of the highest five consecutive years of compensation

**Part C Benefit:** Average of the highest five consecutive years of compensation

Years of Service	Years or fractional years of full-time service rendered to the plan sponsor.
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## Benefit

- a) An annuity which is actuarially equivalent to the accumulated contributions of the member at the time of retirement.
- b) A pension which together with the annuity produces a total annual retirement allowance equal to the sum of Part A, Part B, and Part C benefits each of which is the product of the applicable benefit formula multiplier, the applicable average highest compensation, and the applicable number of years of service.

Reduced Normal Retirement Part A benefits will not be actuarially reduced.

Reduced Normal Retirement Part B and C benefits are actuarially reduced from normal retirement age.

Early Retirement Part A, B, and C benefits are actuarially reduced from normal retirement age.

## **Group G**

Normal Retirement Eligibility	Age 67 with 5 years of service or age 62 with 30 years of service.
Early Retirement Eligibility	Age 57 with 15 years of service.
Benefit Formula Multiplier	Benefit is calculated using a 2.20% multiplier for all years of service up to 30 years and a 2.00% multiplier for all service in excess of 30 years.
Average Highest Compensation	Average of the highest five consecutive years of compensation.
Years of Service	Years or fractional years of full-time service rendered to the plan sponsor.
Benefit	

- a) An annuity which is actuarially equivalent to the accumulated contributions of the member at the time of retirement.
- b) A pension which together with the annuity produces a total annual retirement allowance equal to the product of the applicable benefit formula multiplier, the member's average highest compensation, and the number of years of service.

Early Retirement Benefit is actuarially reduced from normal retirement age.





### **Miscellany for All Groups**

In no event shall the retirement allowance be greater than 90% of a member's average highest compensation.

In no event shall the retirement allowance be greater than that permitted by Section 415 of the Internal Revenue Code.

The average highest compensation used in the calculation of benefits depends on which benefit formula applies to the member. The formula that uses the 2.22% multiplier includes overtime compensation and the lump sum payment for unused vacation, unused sick-pay, etc. The formulas that use all other multipliers do not include overtime or the lump sum payment.

### **Disability Retirement Benefit**

Eligibility	5 years of service.
Benefit	90% of normal retirement benefit at disability date but not less than the smaller of:  (1) 25% of average highest compensation  (2) 90% of the retirement benefit member would have become entitled to had he continued in service to normal retirement age without further change in average highest compensation.

### **Deferred Vested Retirement Benefit**

Eligibility	5 years of service.
Benefit	Normal retirement benefit beginning at normal retirement age.

### **Preretirement Death Benefit**

- (1) Refund of contributions with interest.
- (2) Survivor Benefits according to type of survivors if member has at least 18 months of service.

### **Postretirement Death Benefit**

- (1) Lump sum \$5,000 for group AB only.
- (2) If no Joint and Survivor Option is selected, balance of member contributions not received back in retirement benefit payments prior to death.



### **Optional Forms of Benefit**

- (1) Joint and 100% Survivor Payment
- (2) Joint and 50% Survivor Payment
- (3) 66 2/3% Joint and Survivor Payment
- (4) 80% Joint and Survivor Payment

### **COLA Increases**

#### **Retirees Class:**

3% simple COLA based on the participant's benefit on January 1, 2016 including all previously granted COLA's. Effective January 1, 2016 the COLA will be suspended for a 3-year period.

In the third year of the COLA suspension (calendar year 2018), members will receive a one-time payment that is the lesser of 3% of their base pension benefit and \$1,000. This payment will be made on January 1, or the anniversary date of the member's retirement according to when the member normally receives a COLA.

#### **Current Employees Class:**

3% simple COLA with a 3-year delay following each participant's date of retirement.

#### **Non-CSA Participants:**

Increases will be indexed to the CPI-U with a maximum of 2% per year and will be based on simple interest. There is no suspension or delay for COLA increases.

#### **Poverty Exception:**

Any member of the Retirees Class or Current Employees Class who retired or retires with at least 5-years of service and whose household income is below 150% of federal poverty guidelines will receive a 3% compounding COLA until such time income exceeds 150% of federal poverty guidelines at which point the participant will receive a 3% simple COLA.

### **Contributions**

#### **By Members:**

Each member, commencing January 1, 1978, contributes at a rate of 7.0% of the salary used to compute retirement benefits until his retirement. Beginning January 1, 2010, the employee contribution rate was increased 0.5% per year over 4 years to reach 9.0% of pay. The CSA establishes the contribution rate for members shall not exceed 9.0% of pay for the term of the agreement.



By Employers:

The sponsoring employer makes annual contributions based on members' salaries so that, when members become eligible for benefits, reserves will have been accumulated adequate to provide the pension and other benefits payable by the plan on account of creditable service.

### **2007 Early Retirement Window**

City employees who have 28 years or more of service credit prior to January 1, 2008 were eligible. Those electing to retire prior to January 1, 2008 were credited with two more years of service.

### **Deferred Retirement Option Plan (DROP)**

At the time of this report, the design of the DROP has not been finalized and is still being negotiated. The valuation was performed using the most up-to-date design proposal available and is described below.

Eligibility

Current Employees Class members with at least 30 years of service.

Maximum Participation Period

5 years.

Minimum Participation Period

None.

Benefit

Monthly pension benefit calculated as if eligible member actually retired on their DROP effective date, including any adjustments for an assigned optionee. The monthly pension benefit will be contributed to the member's DROP account in the CRS Pension Trust and paid out as a lump sum upon termination from the DROP.

Employee Contributions

Members continue to contribute 9% of pay while participating in DROP. The following portions will be credited to the member's DROP account and the remaining portion will be contributed to the CRS Pension Trust:

#### Amounts Credited to Member's DROP Account

Years 1 & 2	50% of employee contributions
Years 3 & 4	75% of employee contributions
Year 5	100% of employee contributions

Employer Contributions

Employer contributions to the CRS Pension Trust continue to apply in the same manner as for other actively employed members who are not participating in the DROP. Employer contributions are not credited to the member's DROP account.

Interest

DROP account balances are credited each month at a rate equal to the 10-year U.S. Treasury Note Business Day Series adjusted quarterly with a cap of 4% but not less than 0%.

**SCHEDULE H****TABLE 1****STATUS RECONCILIATION OF PARTICIPATING MEMBERS**

	Active Full Time	Active Part Time	Receiving Benefits	Deferred Benefits	Total
Participants as of December 31, 2014	2,804	795	4,319	197	8,115
A. Receiving Benefits	(69)	(3)	86	(14)	
B. Terminated Vested	(20)	(4)		24	
C. Terminated Non-Vested	(20)	(157)			(177)
D. Deaths	(6)		(186)	(2)	(194)
E. Rehires	6	9		(5)	10
F. New Participants	224	419			643
G. New Member Due to Death of Participant			46		46
H. Part Time to Full Time	57	(57)			
I. Full Time to Part Time	(22)	22			
J. Refunds	(23)	(45)		(9)	(77)
K. Benefits Expired			(2)		(2)
L. Data Corrections			1		1
Participants as of December 31, 2015	2,931	979	4,264	191	8,365

In addition, there are 7,518 inactive participants who are former employees who have an employee account balance in the plan but are not otherwise vested in an employer provided benefit.



**SCHEDULE H  
(Continued)**

**TABLE 2**

**SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE  
AS OF DECEMBER 31, 2015**

Age	Completed Years of Service							Total
	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+	
Under 20 Avg Pay								
20 - 24 Avg Pay	26 37,888							26 37,888
25 - 29 Avg Pay	134 45,093	27 46,821						161 45,382
30 - 34 Avg Pay	155 48,808	99 52,746	38 48,318	1 50,054				293 50,079
35 - 39 Avg Pay	108 50,739	85 50,607	47 50,385	34 60,160	1 57,369			275 51,827
40 - 44 Avg Pay	76 56,918	73 59,667	79 57,791	55 60,322	16 64,467	3 50,355		302 58,766
45 - 49 Avg Pay	78 55,417	72 54,966	82 55,246	92 57,630	69 63,424	79 62,159	3 54,482	475 58,026
50 - 54 Avg Pay	55 58,676	38 54,259	60 54,910	69 56,809	98 62,503	208 62,434	35 68,172	563 60,393
55 - 59 Avg Pay	36 56,799	47 60,550	47 56,921	69 54,604	72 58,834	181 61,251	60 64,226	512 59,589
60 - 64 Avg Pay	16 59,383	22 71,775	31 55,582	31 58,745	34 57,169	56 60,682	22 68,641	212 60,969
65 - 69 Avg Pay	5 116,543	10 66,620	17 59,855	15 61,174	15 53,127	12 57,875	8 74,178	82 64,255
70 & Over Avg Pay	2 160,987	2 50,647	3 44,410	5 63,159	6 58,460	5 53,581	7 75,052	30 67,210
Total Avg Pay	691 51,878	475 55,484	404 54,811	371 57,836	311 60,829	544 61,572	135 66,903	2,931 57,062

Average Age 47.33

Average Service

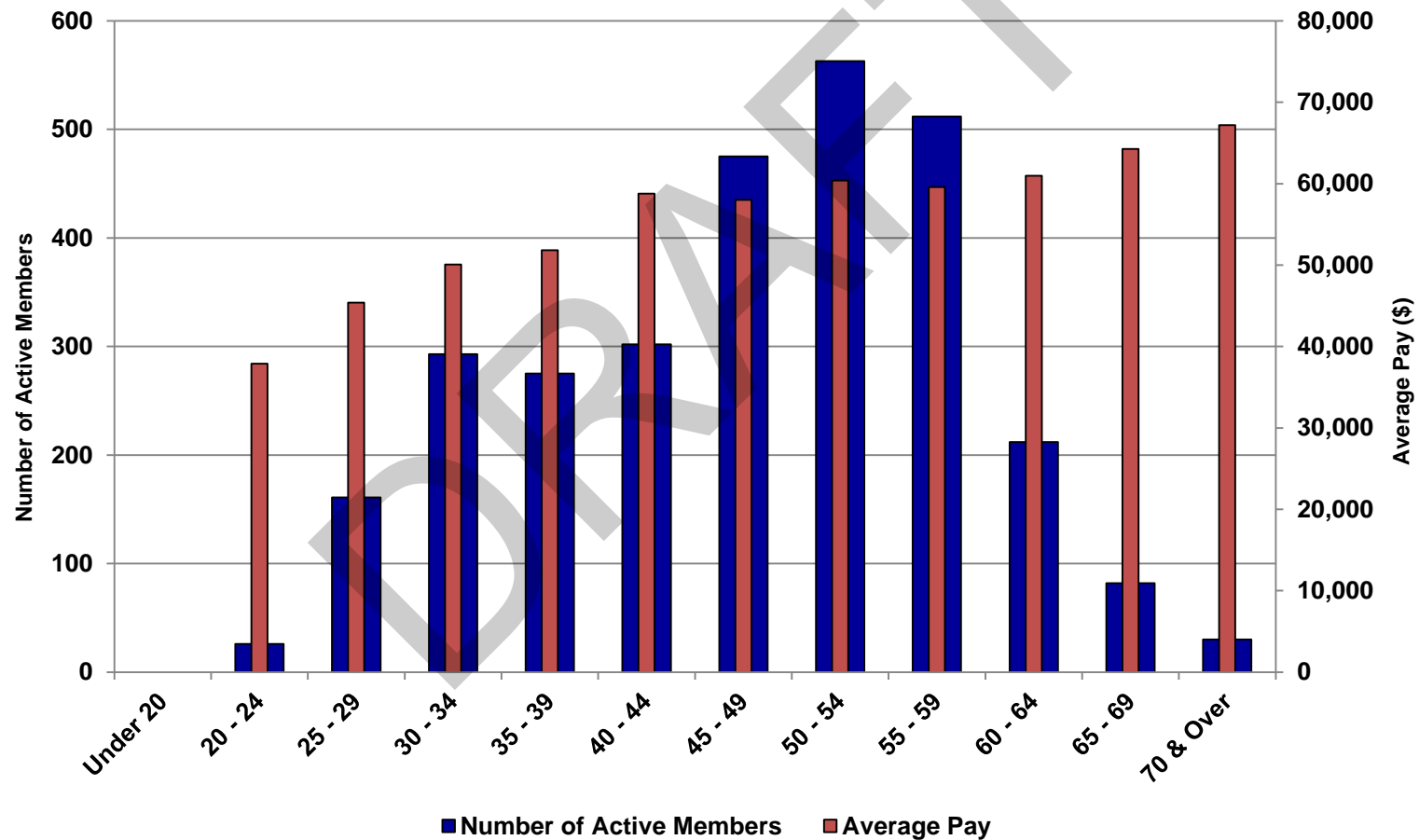
14.15



**SCHEDULE H**  
**(Continued)**

**CHART 1**

**DISTRIBUTION OF ACTIVE MEMBERS BY AGE**  
**AS OF DECEMBER 31, 2015**





**SCHEDULE H**  
**(Continued)**

**TABLE 3**

**SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES**  
**AS OF DECEMBER 31, 2015**

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
39 & Under	3	\$ 90,625	\$ 30,208
40 - 44	6	90,997	15,166
45 - 49	11	195,315	17,756
50 - 54	43	1,509,837	35,112
55 - 59	277	12,105,357	43,702
60 - 64	757	31,523,147	41,642
65 - 69	955	40,560,628	42,472
70 - 74	640	25,067,233	39,168
75 - 79	513	18,324,832	35,721
80 - 84	462	15,066,018	32,610
85 - 89	336	10,349,094	30,801
90 - 94	194	4,573,279	23,574
95 - 99	60	1,099,590	18,327
100 & Over	7	<u>179,018</u>	<u>25,574</u>
<b>Total</b>	<b>4,264</b>	<b>\$ 160,734,970</b>	<b>\$ 37,696</b>

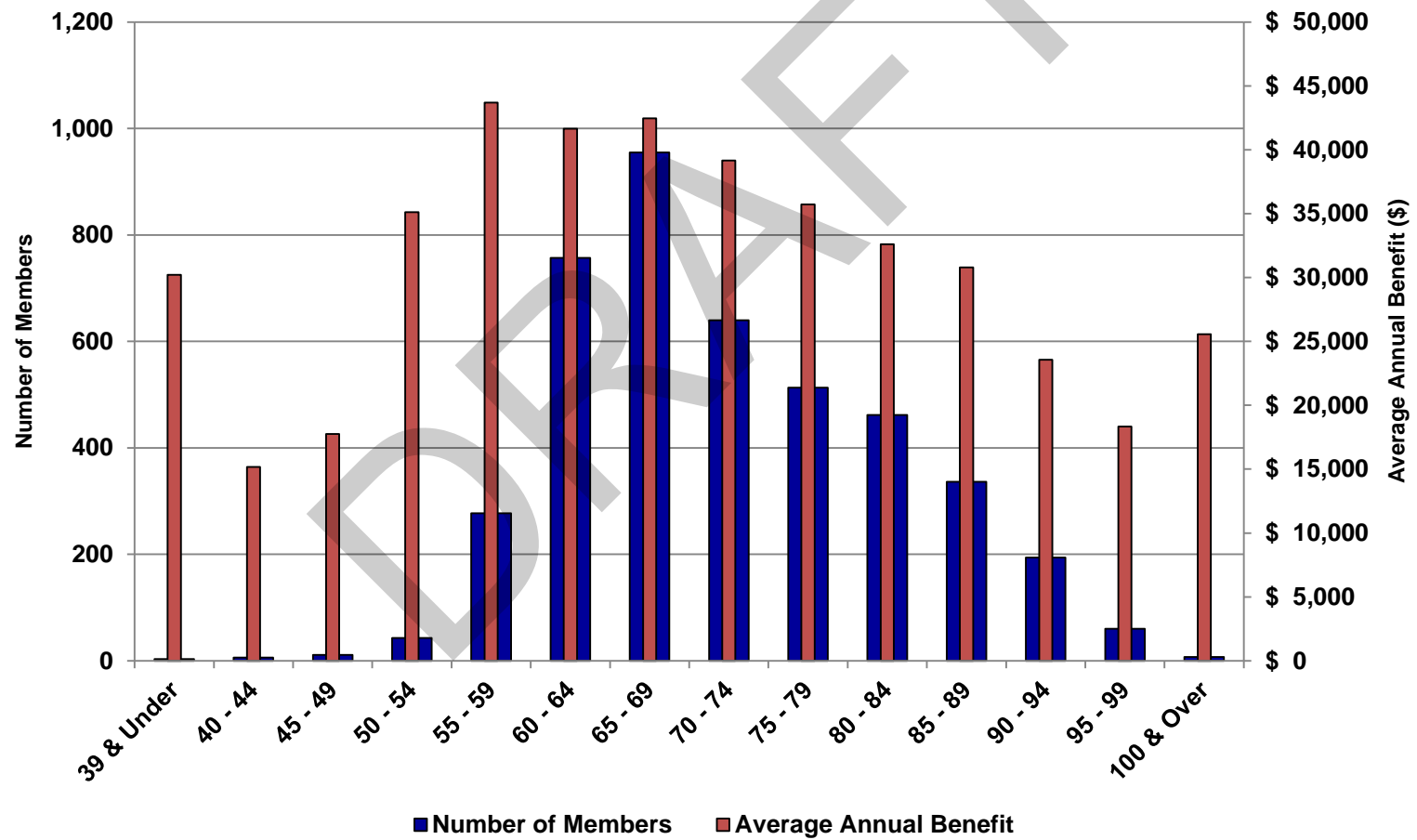
In addition, there are 191 deferred vested employees and beneficiaries entitled to deferred annual benefits totaling \$3,090,977.



**SCHEDULE H**  
**(Continued)**

**CHART 2**

**DISTRIBUTION OF RETIRED MEMBERS AND BENEFICIARIES**  
**AS OF DECEMBER 31, 2015**







# SCHEDULE I

## ANALYSIS OF FINANCIAL EXPERIENCE

### Gains & Losses in Unfunded Accrued Liabilities Resulting from Difference Between Assumed Experience & Actual Experience (\$ Thousands)

Type of Activity	\$ Gain (or Loss) For Year Ending 12/31/2015	\$ Gain (or Loss) For Year Ending 12/31/2014
<b>Age &amp; Service Retirements.</b> If members retire at older ages, there is a gain. If younger ages, a loss.	\$ (8,033)	\$ (1,001)
<b>Disability Retirements.</b> If disability claims are less than assumed, there is a gain. If more claims, a loss.	137	(77)
<b>Death-in-Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(109)	(684)
<b>Withdrawal From Employment.</b> If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(2,125)	(4,714)
<b>Pay Increases.</b> If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	3,347	(1,641)
<b>New Members.</b> Additional unfunded accrued liability will produce a loss.	(732)	(603)
<b>Investment Income.</b> If there is a greater investment income than assumed, there is a gain. If less income, a loss.	413	36,688
<b>Death After Retirement.</b> If retirants live longer than assumed, there is a loss. If not as long, a gain.	9,006	26,087
<b>Other.</b> Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	(2,268)	(2,168)
<b>Gain (or Loss) During Year From Experience</b>	<u>\$ (364)</u>	<u>\$ 51,887</u>
<b>Non-Recurring Items.</b> Adjustments for plan amendments, asset transfers, assumption changes, or method changes.	<u>345,573</u>	<u>0</u>
<b>Composite Gain (or Loss) During Year</b>	<u>\$ 345,209</u>	<u>\$ 51,887</u>